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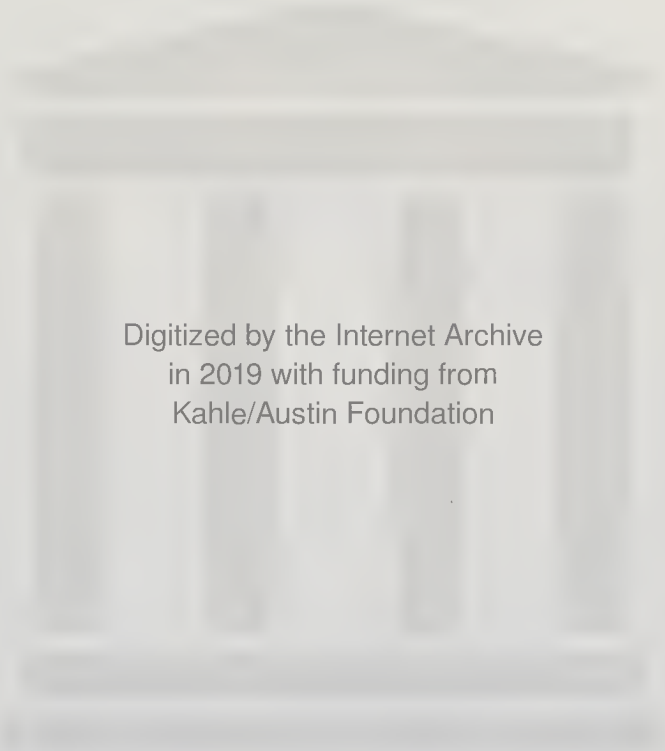

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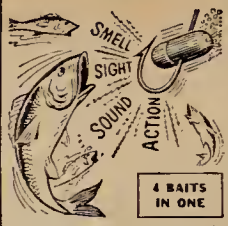

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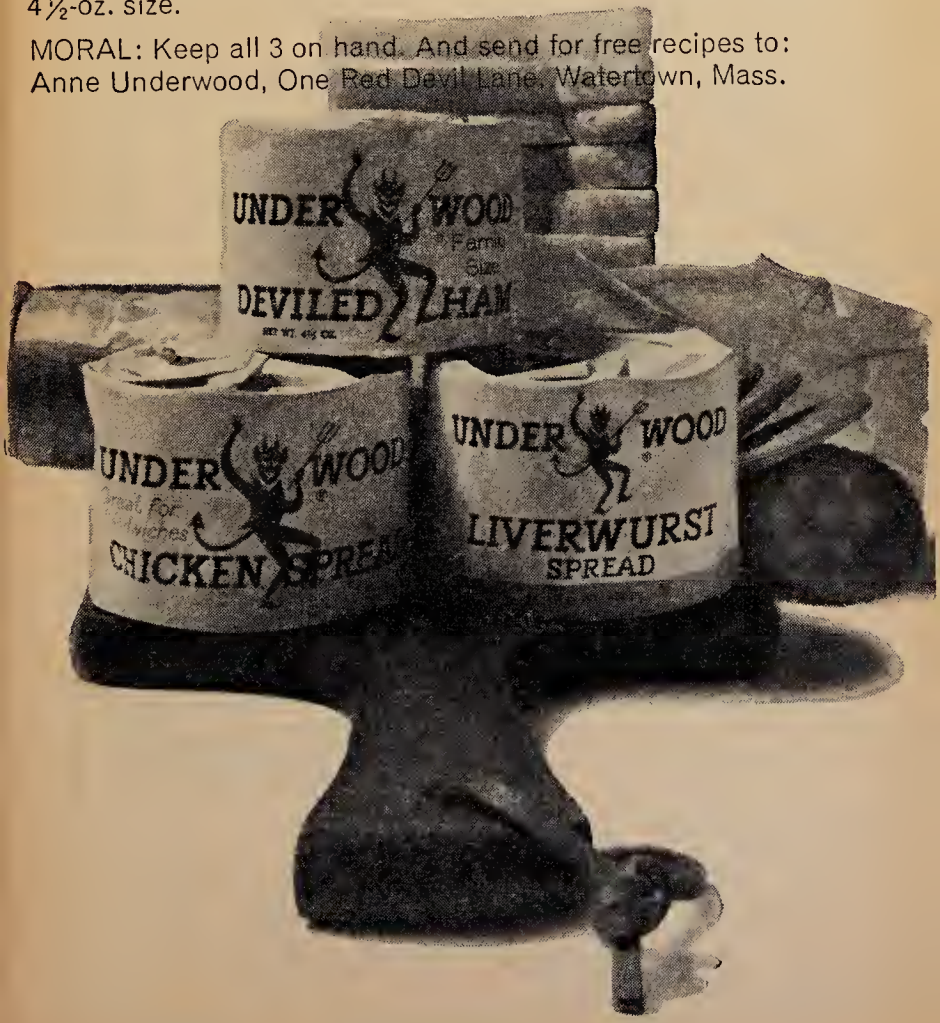

THE ORIGINAL TOM THUMB

From a miniature booklet by Solomon King, New York City, about 1830.

TOM THUMB was born in the reign of King Arthur. He was thus called because he never grew any taller than his father's thumb, which was not a very big thumb either.

One day his mother made a batter pudding, and that he might see how she mixed it, he climbed up to the edge of the bowl, but his foot slipping, he fell over head and ears into the batter.

The hot water made Tom struggle; and his mother seeing the pudding jump about, gave it to a poor tinker who was passing by, who put it in his pocket and walked on.

As soon as Tom could get the batter out of his mouth he began to bawl lustily, which scared the tinker so much that he threw the pudding, Tom and all, over the fence, and ran away.

One windy day his mother tied him fast with a needleful of thread to a thistle, that he might not be blown from her. The cow took up the thistle and Tom at a mouthful; but he screamed, and the cow was glad to drop him.

King Arthur sent for Tom to court, where he went riding on a fine mouse. The king gave him a purse and a silver three-penny piece, which, after much labour, he got on his back, and rode home.

Not long after this, the Queen of the Fairies came to see him, in a chariot drawn by flying mice, and made Tom her coachman, who drove her through the air to her palace. She then made a fair wind to blow, and placing Tom on a beautiful painted butterfly, sent them away.

On arriving at the drawbridge, Tom was opposed by a large spider. Tom drawing his sword fought the whole day; but alas, the spider finally overcame and killed him: a drawing of the desperate battle you will see below.

Tom Thumb lies dead, King Arthur's knight,
Who died by a spider's cruel bite.
Wipe, wipe your eyes, and shake your head,
And cry, Alas! Sir Tom is dead!

Twentieth Century is 2/3 Gone

■ JANUARY 1, 1968, is a Special Day. On it, we enter the first full year of the last third of this century.

The Twentieth Century was ⅔ complete at midnight, September 1–2, 1967.

As the New Year comes in, the Old Century will be, mathematically speaking, 66.9979 . . . percent gone.

Actually, there was some misunderstanding about the precise moment at which that ⅔ point was reached. Since ⅔ of 100 is 66.666 . . . it would seem that the ⅔ point in this century should come during the year 1966 — not 1967. And so it would, if our calendar was normal. But it isn't. For reasons best known to antiquarians (perhaps because the concept of zero was not known at the time of Christ?), there is no Year Zero in the Christian calendar. The year 1 BC is followed by 1 AD. Therefore the first century AD begins with the year 1, not zero, and so, according to the traditionalists, must all of its successors, including our own. Historically and calendarically and officially and every way except logically, the Twentieth Century began a year late.

Astronomers, however, recognize the year Zero. They call the calendar year 1 BC, 0. Thus 2 BC for them is —1, 3 BC is —2, and so forth. Thus for them the ⅔ point of this century came in 1966.

Confusing?

Maybe.

But consider the plight we would be in if the calendar-keepers (almanack-trackers?) took into strict account the findings of the Bible scholars. They believe that Christ was born in 4 BC, or earlier, so that the Christian era is at least 4 years older than the calendars indicate.

There are even some hypermeticulous persons who point out that if we assume that Jesus was born on Christmas day, December 25, 1 BC (of course, neither the day nor the month is known), then the first Annus Domini, or Year of the Lord, was, according to the calendar, only 6 days long.

Well. Be all that as it may, and regardless of precisely when the great moment came, it did come. We have recently completed — successfully — two-thirds of this most rewarding, dangerous, extraordiuary century.

Next: the ¾-mark . . . in 1976.

Or should it be 1975? Or 1972??

Or. . . .?

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Or certain Rules to judge of the WEATHER; grounded on fifty years' experience and observations, by an ancient English Shepherd, 1812.

If the sun rises red and fiery, it certainly betokens more or less wind or rain, this observation agrees with the old English rule: **If red the sun begins his race, Be sure that rain will fall apace.**

If cloudy at sunrising, and it so decreases, it is a certain of fair weather; agreeable to this an observation of Pliny's, in his Natural History, which says—**If at sun-rising the clouds are driven away, and retire as it were to the west, it denotes fair weather.**

There is an old proverb to this purpose, which also deserves our notice: **A red evening, and a grey morning set the pilgrim a walking.**

Little round clouds like a dapple grey, and at the same time a north wind blows, denotes fair weather for a few days.

If the sun be surrounded with an iris, or circle of white clouds, and they equally fly away, 'tis a sign of fair weather.

And this old English proverb is often right: **In the decay of the moon, A cloudy morning bodes a fair afternoon.**

If the weather be hazy, and the wind falls away, and small clouds increase, depend on much rain, and that soon.

If large clouds break away, decrease in bulk, and ascend higher in the atmosphere, it is a certain sign of fair pleasant weather. The large black clouds in Summer evenings, which seemingly threaten much rain over night are frequently resolved into dews, and produce a very misty morning, and a fine warm day.

When mists rise in low ground, and soon vanish, nothing is a surer sign of fair weather: when they are heavy, rise slowly, and keep visible on the hill tops, they are soon condensed, they fall down in rain, which, however, seldom lasts long.

A mist in the morning, before sun-rising, and at or about the full of the moon, betides fair weather; but if mists appear in the new moon, you may depend on more or less in rain in the old; and when they arise in the old there is generally rain in the new.

If the wind shifts from the north to the south in a few days without rain, and turns north again with rain, returns to the south in one or two days, and so on for two or three keeps shifting, it will afterwards fix south or west two months or more.

When the north wind first clears the air which generally happens once a week, you may depend on a fair day or two.

In Summer, or Autumn, when the wind has been in the south two or three days, and the weather very hot, and the clouds rise one above another with white tops, like battlements of a tower, and joined together, and black on the hills, depend on thunder and rain very speedily.

Continued on page 138

MARGUERITE CARTER

What did this woman predict about the future?

The crisis between Arabs and Jews that took place nine months later . . . the delay in our space program that occurred five months later . . . Walter Reuther cut off from old supporters which happened six months later . . . the attempt, failure and result of Vietnam peace talk that began four months later! These predictions were made by this amazing woman in one publication and at the time, unforeseen by others!

Published predictions, by Miss Carter, concerning events of national and world importance, have attracted notice, nationwide. She is an internationally known lecturer, author and authority on planetary influences. Her astrological features have appeared in metropolitan newspapers and magazines in the United States, Canada and England.

The remarkable knowledge and exciting background of this woman are evident in her writings. A lifetime devoted to the study of planetary influences on our lives, personal counseling and guidance by Marguerite Carter, make her work of greatest value to thousands of clients, year after year. Clients write: " . . . *Thank you for your help through these past ten years, for buoying my hopes so I could go on when my lot seemed unreasonably difficult.*" E. M., Mass. " . . . *I want to tell you how sustaining and reassuring your work was to me.*" P. F., N. Y. " . . . *how can mere words express the deep inner joy of achieving the much longed for, and seemingly unattainable goals.*" C. B., N. J. The thoroughness and accuracy of her descriptions and outlook for the year ahead are truly amazing!

Miss Carter's Forecast with Special Notations contains guidance that, in her opinion, can open the door to a bright, new future; outstanding indications of changes, home life, associations with others, financial outlook and opportunities are covered.

Request Miss Carter's Unitology Forecast with her Special Notations for the year ahead. It will be compiled, based on birthdate information. Print month, day, year, place, hour of birth (if known) and include $3.75, plus 25¢ toward mailing costs. Please allow three weeks for receipt of Miss Carter's Unitology Forecast. Address: Marguerite Carter, OFA 68 Jackson Building, Indianapolis, Indiana 46225.

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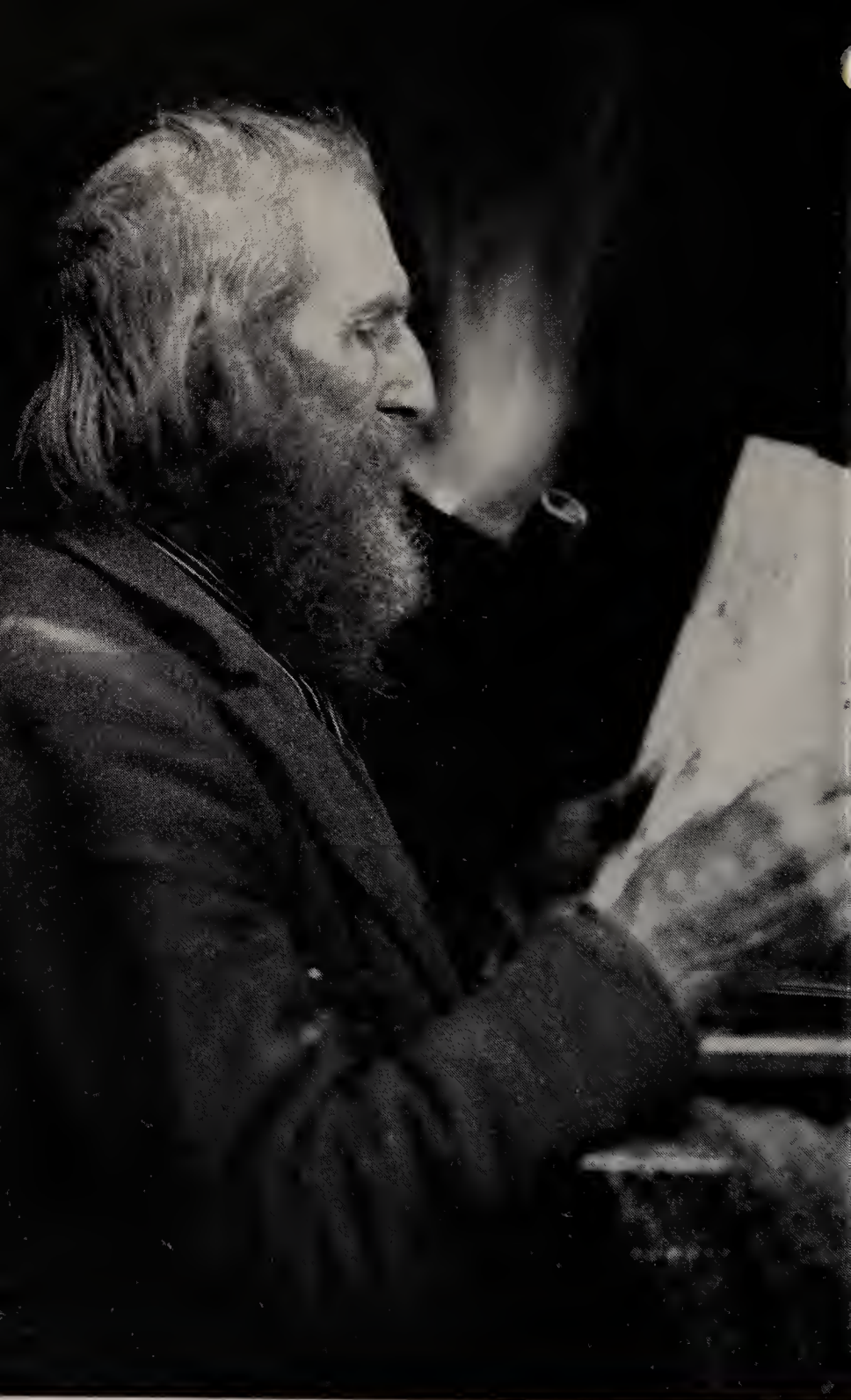

Number One Hundred and Seventy-six.

THE
(OLD)

FARMER'S ALMANACK,

CALCULATED ON A NEW AND IMPROVED PLAN
FOR THE YEAR OF OUR LORD

1968

Being LEAP YEAR, and (until July 4)
192nd year of American Independence

FITTED FOR BOSTON, AND THE NEW ENGLAND STATES, WITH SPECIAL CORRECTIONS AND CALCULATIONS TO ANSWER FOR ALL THE UNITED STATES.

→ AGAIN THIS YEAR: INDIVIDUAL SECTIONS FOR THE NORTH CENTRAL, MIDWEST, WEST, AND SOUTHERN STATES.

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ESTABLISHED IN 1792

BY ROBERT B. THOMAS.

"Even such is time, that takes in trust
Our youth, our joys, our all we have,
And pays us but with age and dust;
Who in the dark and silent grave,
When we have wandered all our ways,
Shuts up the story of our days.
But from this earth, this grave, this dust,
My God shall raise me up, I trust!"

(Written by William Shakespeare
April 22, 1616 — the night before his death.)

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WEATHER FORECASTS

For Entire U.S.A. — see page 19, and the verses in italics on pages 25–47.
For Boston and Vicinity — see page 90.
For No. New England — see page 91.
For So. New England — see page 92.
For Eastern States, except New England — see page 94.
For Midwestern States — see page 97. For Great Plains — see page 103.
For Pacific Northwest — see page 104. For Southern States — see page 109.
For Anywhere by Moon — see page 113.

Readers will please note that the weather forecasts throughout this almanac may be read directly without correction for all of the regions indicated above.

FOR TIMES OF SUNRISE, SUNSET, MOONRISE, MOONSET, AND PLANETS — SEE PAGE 88 AND—

For Boston and Vicinity — see pages 24–46, 48.
For New England, except Boston — see page 91.
For Eastern States, except New England — see page 93.
For Midwestern States — see page 96.
For Western and Mountain States — see page 102.
For Southern States — see page 108.

KEY LETTER CORRECTIONS — The key letters which appear on pages 24–46, 48, for each day are for correcting the above times in areas outside of Boston.

TIDES

See pages 24–46 for times of morning and evening high tides. See pages 25–47 for heights of same. To correct these times and heights to your locality, see page 112.

TWILIGHT, SUNDIALS, ETC.

For these and detailed instructions pertaining to the above, and other matter pertaining to points outside of Boston — see pages 88–89. Here, for the first time in any almanac, begins a series of eight sections pertaining respectively to Boston, No. New England, So. New England, the East outside of New England, the Midwest, Great Plains, Pacific NW, and the South.

To Patrons

This is the 176th consecutive annual edition of THE OLD FARMER'S ALMANAC(K). It is for the year 1968, or Atomic Year 24. It is the oldest continually published periodical in America. Founded in 1792, while George Washington was President — the same year in which the cornerstone of the White House was laid — its name and format, with one exception, have remained unchanged. The exception is that, in 1832, in order to distinguish it from imitators, the word "Old" was added to its title.

There have been, and still are, imitators of this almanac . . . in name, appearance, and content. Imitation is, of course, the sincerest form of flattery. In this, we are happy to remark that the paid sale of this Almanac continues to be the largest of any almanac in the world.

Sometimes we are asked what an almanac is and why, in this age of newspapers, radio, and television, this Almanac is either needed or wanted. As is often the case, to ask a question is to answer it. However, in the long and careful editing (which began in November, 1966) of this edition, we have been inspired by 1) a belief that the **continuity** of this Almanac as an American and family tradition is not only important but desired by its readers, and 2) a realization that, although a larger format, bigger type, etc. might make it easier to read, the maintaining of the original 1793 format is now a **must**. Any major change in this format, more readable or not, would seem to us (and most of our readers), almost treason. 3) Finally, and most important of all —

This Almanac, in presenting as it does each year some 18 months months in advance (we go to press in May) for the next year the exact times of sunset, sunrise, moonset, moonrise, coursing of the planets, eclipses, tides, and probable weather, gives MEANING to the Creation. As we become more aware of this GUIDING FORCE and learn through our inadequate senses how it is each tree, each bird, each animal, each individual is an INTEGRAL PART of this FORCE or SPIRIT, we realize its universal power for good. Properly understood, by us, this Universal Being can and does oppose and eradicate disease, war, crime, evil — in fact, everything and anything which interferes with the meaningful, continuing, harmonious progression of life and purpose.

For your reservoirs of wit and wisdom, in addition to the foregoing qualities of "continuity, tradition, and purpose," is included (as it has been in each edition since 1793) a "variety of new, useful and entertaining matter."

This year, Loring B. Andrews, our astronomer, has been called upon to aid Old Abe Weatherwise in his forecasts for each of the eight individual climatic areas and the overall continental summary. Andrews, through his studies of what he calls the pulse of the Sun (and outer space) is giving Old Abe the scientific assist he needs to ascertain when storms will come in, and where . . . and eventually, as his studies progress, how much precipitation and wind they will hold. The work of combining Old Abe's secret formula, and Andrews' scientific findings for eight different areas, and the U. S. as a whole, has been not only arduous but fantastic. It remains to be seen how valuable it may be. (Old Abe insists it won't be half as good as it would have been if we had let him go it alone.)

Benjamin M. Rice has again prepared the Farmer's Calendars; Rob Trowbridge, as assistant publisher, has made valuable contributions — especially to the solution of production, advertising, transportation, and advertising problems. Judson Hale has helped with the puzzles and layouts. Other contributors are by-lined.

We would hope that this edition will merit the approbation of the many friends — old and new — of this almanac, and that it may find acceptance by professionals in the various fields of communication as a worthwhile effort to maintain a fine American tradition. Man, however, in these things can only propose. God is the true disposer. In this it is by our works and not our words we would be judged. These we hope will sustain us in the humble, though proud, station we have so long held, in the name of

Your ob'd servant,

Robt. B. Thomas.

June 1, 1967

Last Winter's Weather

(Nov., Dec., 1966 — Jan., Feb., Mar., Apr. 1967)

The overall forecast at Blue Hill, Milton, Massachusetts (which Abe Weatherwise uses for Boston verification purposes) was, for the Winter of Nov. 1966-Apr. 1967 almost perfect: Temperature was forecast as 35°; the actual was 34.2°. Precipitation was forecast at 27"; actual was 26.77". Snow was forecast as 89"; actual was 109.6".

However, Abe's batting average as to the actual days, weeks, and months these storms would come in was very poor indeed. In fact, 30% is giving him better than he deserves. However, he became a villain (or a hero, depending upon how you look at it) by forecasting correctly the Great Blizzard of 1967 at Chicago, Detroit, and parts of Indiana. In the East, this storm was rain.

Highlights of the Winter, nationwide, follow herewith:

November 1966

1-2, **heavy rain** (Atlanta to New England), **snow** (Ind. to N. Y.). **cold** (So.); 6, **heavy rain** (So. New Eng.); 8-9, **heavy rain** (Chi.); 9-12, **stormy everywhere** (exc. Dakotas to Tex.); 14-20, **clear all over** (exc. Pac. N.W.); 21-27, **rain** (NW Coast); 29-30, **snow** (Mich., N. J., Pa., So. New Eng.).

December 1966

1-3, **rain and snow** (Midwest to New Eng.); 4, **rain** (Maine); 5-7, **rain and snow** (Ill., Vt.); 6, **rained all 50 states**; 11, **rain** (Pitts. to Vt.); 12-15, **snow** 5-12" (Atlanta to No. New Eng.); 19-20, **snow** (Gt. Lakes); 22-25, **major snowstorms, rain, ice** (Atlanta to New Eng.); 28-29, **snow** (Nebr. to Chi. to New Eng.).

January 1967

1, **rain** (Atlanta to New Eng.); 3-4, **rain** (Ore.), **snow** (Cascades), **stormy** (Chi. to New Eng.); 7-8, **blizzard** (Midwest), **rain** (Atlanta); 9-11, **snow** (Tex.); 14, **rain** (Atlanta); 16, **blizzard** (Midwest); 18, **below zero** (18 states); 19, **rain, snow, 90-mph winds** (Ore., Mont., Wyo.); 26-27, **BLIZZARD OF 1967** (Ill., Mich., Ind.), **heavy rain** (Ohio to New Eng., Ore.).

February 1967

1-2, **stormy over most of U.S., snow** (Chi., N.Y., New Eng.); 5-7, **rain** (Calif.), **snow** (Chi. 11-day total 3', Pitts., Ind., New Eng.), **tornado** (Ala.); 9-12, **snow** (N.C. to New Eng.). **rain** (La.); 15-16, **high winds** (Ore. to New Eng.), **snow** (Dakotas-Wis., Mo., Kans.); 17, **rain** (Ga.); 20, **rain** (Ga.), **windy, stormy** (New Eng.); 23, **snow** (Chi. to New Eng.); 27-28, **stormy over most of U.S.A.**

March 1967

4-5, **rain** (Pa.); 6, **hail** (Ind.), **heavy rain** (Ga.); 6-7, **rain and snow — 14"** (Pa.); 7-8, **tornadoes** (So.); 14-16, **snow, 1"-18"** (Pa., N.Y., N.J., New Eng.); 20, **rain and snow** (Chi. to Pitts.), **rain** (corn belt to Atlantic); 22-23, **2"-22" snow** (Md., Pa. to New Eng.); 23-24, **dust storms** (Gt. Plains); 31, **rain** (Chi.).

April 1967

1-2, **heavy rain** (Okla. to New Eng.); 6-7, **snow** (Gt. Lakes to New Eng.), **rain** (Ohio, Pa.); 9-10, **rain** (New Eng.); 12-14, **stormy** (Rockies to Ohio), **tornadoes** (Kans., Mo. to Miss.), **rain** (Ill.); 14-15, **rain and snow** (New Eng.), **bad squall** (Ohio); 17, **blizzard** (Minn.), **rain** (Gt. Lakes to Gulf); 20-21, **snow** (Mont. to New Eng.), **bad tornadoes** (Mo., Ill., Ind., Mich. — 55 k., 1100 inj.); 22-23, **stormy** (Pa. to New Eng.); 24-25, **rain** (Tex. to New Eng., Ga.); 27-28, **near hurricane** (So. New Eng.), **stormy** (Gt. Lakes), **blizzard** (Mont., Dakotas), **tornadoes** (Tex. to Minn. — 100 inj.); 29-30, **rain** (Ill.).

At Burlington, Vt. (the station Abe Weatherwise uses for his Northern New England forecast verification), there was 82.5" of snow; at Portland, Maine, 108" — against Abe's overall forecast of 132".

At Providence, R. I. (for Southern New England) snowfall was 63.1" against Abe's predicted 32". (In some places in Conn. the snowfall was close to 80".)

At Pittsburgh (for the Eastern States Outside of New England), 57.5" of snow fell — Abe had forecast 71".

At Chicago (for the Midwest), where Abe expected 39" of snow, some 68.4" fell, to make a new season record. Abe also called for tornadoes at this station in April — but between the 5th to 8th, and 24th to 30th. The bad tornado came on the afternoon of the 21st.

At Portland, Ore. (for the Northwest), where Abe looked for 21" of snow, none fell. However, Abe's total precipitation for Portland's winter (27.5") was being approximated at the end of March with 24.98", April still to come.

Continued on page 120

Weather Forecast 1967-8

The verses in *italic type (same as this)* which run vertically down the middle of the Calendar Pages (25–47) cover the country as a whole for the calendar year of 1968. These are for the days indicated by the beginning capitalized word and ending with a period. In addition, there follows herewith: 1) a prose summary of the Winter in general across the country from November, 1967 through April, 1968: and 2) a summary for the calendar year 1968 (January–December). These general forecasts are then broken down into eight regional weather forecasts, both for the Winter (November, 1967–April, 1968) and the calendar year (January–December, 1968). See pages 90–109.

As all of these forecasts are based, for verification purposes, at established U.S.W.B. Stations, the temperature will be about 5° higher for each 100 miles south of the U.S.W.B. Station location given in the above-mentioned summaries and 5° lower for each 100 miles north. For each 1,000 feet of altitude, reduce temperatures approximately 3° . . . read, with the colder temperatures, "snow" for "rain."

THE WINTER IN NORTHERN U.S.A.

(NOV. 1967–APR. 1968)

After a fine November, December offers the same for the period of the 15th to 25th. The second and last weeks will be rough from Pittsburgh West, whereas the East will be stormy in the first week and over Christmas. January will be abnormally cold, with two bad storms (5–10) and during the last week. February warms up but brings trouble with heavy snowstorms between the 6th and 12th and during the last week. March brings heavy rains in the East and South between (5–11), (18–23), and (27–31). The first one will be the most disagreeable but tornado warnings will be up south of Chicago for the whole Midwest area during the last week. April brings an early fine spring this year. There are three major storms (5–8), (12–18), and (25–30), but only the middle one seems worth worrying about.

THE YEAR IN MOST OF THE U.S.A.

(JAN.–DEC. 1968)

Here is a year which, in most of the U.S.A., runs close to normal in temperatures, and just slightly below normal in precipitation. The last week in January may hold a memorable storm of snow from the Great Plains to New England. February will be a stormy month — the second week in the Great Plains as well as the East, the third week from Atlanta to Pittsburgh, the last week from Chicago on East. Tornadoes hit the South March 1 to 14, while New England has a near-blizzard (5–11). Both the Great Plains and Pacific Northwest have bad storms between March 18 and 23. In April, there are tornadoes in the South (5–8), violent storm in the East (12–18), and again all the way from Chicago to New England during the last week. July is a fine month this year — but August is cool with bad storms everywhere (except the South) between the 21st and 27th. This kind of weather repeats itself in September (19–24), but along the East Coast may bring in a hurricane. A dangerous storm is marked for November 21 to 30 in most places — and from Chicago to New England the last week in December, 1968.

Continued on page 90

ECLIPSES FOR THE YEAR 1968

There are four eclipses, two of the Sun and two of the Moon.

I. A Partial Eclipse of the Sun, March 28, 1968. Except for the southernmost tip of South America and the northern fringes of Antarctica this eclipse will be visible only in the South Pacific Ocean.

II. A Total Eclipse of the Moon, April 12-13, 1968. The entry of the Moon into the Earth's umbral shadow will be visible in North America except for the northwestern part of Alaska, as well as in Europe, most of Africa, the Atlantic Ocean, South America, the southeastern part of the Pacific Ocean, and Antarctica. The departure of the Moon from the shadow will also be visible throughout North America and all but the southeastern part of the Atlantic Ocean, from along the northwest coast of Africa, South America, the Pacific Ocean except for its western part, New Zealand, and Antarctica. The Moon moves into the umbral shadow at 10.11 P.M.E.S.T. April 12th and is first fully within the shadow at 11.23 P.M. It begins to move out of the phase of total eclipse at 12.13 A.M. April 13th and is clear of this shadow at 1.25 A.M.E.S.T.

III. A Total Eclipse of the Sun, September 22, 1968. The path from which this eclipse may be seen as total begins near the 80th parallel of north latitude at longitude 108°E. Thence it sweeps an arc through Siberia and Kazakh within the Soviet Union to an ending just inside the border of Sinkiang Province in China. As a partial eclipse it may be seen over a wide area which extends from Labrador and Baffinland, where the partial eclipse will be seen near sunrise, to the heart of Siberia and China, where it will be seen near sunset. Between these limits the area of visibility of the partial eclipse covers Greenland, Iceland, all of Europe, except southwestern Spain and Portugal, all of Asia west of the Siberian and Chinese heartlands, and the northeastern part of Africa.

IV. A Total Eclipse of the Moon, October 6, 1968. The Moon will have set along most of the eastern seaboard of the United States by the time this eclipse becomes total, but its partial phase prior to totality will be visible there, as it will be throughout the United States and all of North America, beginning at 4.55 A.M.E.S.T. The Moon's entry into the umbral shadow of the earth at this time will also be visible from the western half of South America, the Pacific Ocean, most of Australia and New Zealand, the northeastern part of Asia, and the Arctic regions. The total phase will begin at 6.10 A.M.E.S.T. and will be generally visible within the United States to the west of the Eastern Standard Time belt. The Moon will be entirely outside the umbral shadow at 8.30 A.M.E.S.T., making the end of the eclipse visible only from the northwestern part of North America, the Pacific Ocean except its southeastern part, from Australia, New Zealand, most of the Indian Ocean, Asia except the western part, and the Arctic regions.

During this week of the Harvest Moon, its path across the sky from rising to setting essentially duplicates that which the sun follows across the sky during the months of spring — months of ever-lengthening daylight culminating with the longest days of the year as summer enters the scene. So, too, the Hunter's Moon. Thus it is that these particular moons provide successive brightly moonlit nights at the time of hayrides and frost on the pumpkins.

The Harvest Moon (full October 6) and the ensuing Hunter's Moon (the full moon of November 4) light the night-time hours until each has waned to last quarter. Neither sets over those weeks until well into the next day's daylight hours, gracing the western sky while the sun graces the eastern. A study of the times of the risings and settings of the sun and moon for those weeks on pages 42 and 44 illustrates this.

EARTH IN PERIHELION AND APHELION, 1968

The Earth will be in Perihelion on January 4th, distant from the Sun 91,265,000 miles. The Earth will be in Aphelion on July 2nd, distant from the Sun 94,369,000 miles.

FULL MOON DAYS

	1968	*1969*	*1970*	*1971*	*1972*		*1968*	*1969*	*1970*	*1971*	*1972*
Jan.	15	3	22	11	30	July	9	28	18	8	26
Feb.	14	2	21	10	28	Aug.	8	27	16	6	24
Mar.	14	4	22	11	29	Sept.	6	25	15	4	22
Apr.	12	2	21	10	28	Oct.	6	25	14	4	22
May	12	2-31	20	10	27	Nov.	4	23	13	2	20
June	10	29	19	8	26	Dec.	4	23	12	2-31	20

Holidays, 1968

†Are recommended as "with pay" holidays—regardless of regular periods—for all commercial employees. (*) Quite generally observed. (**) State holidays only. (***) Observed some places though probably not holidays.

All dates are also included in abbreviated form on the Calendar Pages 25-47.

Jan. 1 (*†) New Year's (all) **Mon.**
Jan. 8 (**) Battle New Orleans (La.)
Jan. 19 (**) Robert E. Lee's Birthday (South)
Jan. 19 (**) Arbor Day (Fla.)
Jan. 26 (**) MacArthur (Ark.)
Jan. 30 (**) F.D.R.'s Day (Ky.)
Feb. 12 (*) Lincoln's Birthday (13 States) **Mon.**
Feb. 14 (**) Admission Day (Ariz).
Feb. 14 (***) Valentine's Day
Feb. 15 (***) Susan B. Anthony
Feb. 22 (*†) George Washington's Birthday, **Thurs.**
Feb. 27 (**) Mardi Gras. (Ala., Fla., La.)
Mar. 1 (**) State Day (Nebr.)
Mar. 2 (**) Texas Ind. Day
Mar. 7 (**) Burbank Day (Cal.)
Mar. 15 (**) Jackson Day (Tenn.)
Mar. 17 (**) St. Patrick's or Evacuation Day (Boston)
Mar. 25 (**) Maryland Day
Mar. 26 (**) Kuhio Day (Haw.)
Mar. 30 (**) Seward's Day (Alas.)
Apr. 2 (**) Pascua Day (Fla.)
Apr. 12 (**) Good Friday (Ark., Cal., Conn., Del., Fla., Ill., Ind., La., Md., Minn., N. J., N. D., Penn. & Tenn.)
Apr. 12 (**) Halifax Day (N. C.)
Apr. 13 (**) Jefferson Day (Ala., Mo., Nebr., Okla., Va.)
Apr. 14 (**) Pan Am. (Fla.)
Apr. 15 (**) Easter Mon. (N.C.)
Apr. 19 (**) Patriots' Day (Me., Mass.) **Fri.**
Apr. 21 (**) San Jacinto (Tex.)
Apr. 22 (**) Okla. Day. Arbor Day (Nebr.)
Apr. 22 (**) Fast Day (N. H.), **Mon.**
Apr. 26 (**) Memorial Day (Fla., Ga., Miss.)
Apr. 26 (*) Nat'l Arbor Day (Utah)
May 4 (**) R. I., Indep. Day
May 10 (**) Mem. Day (N. & S. C.)
May 12 (***) Mother's Day
May 18 (**) Armed Forces Day
May 20 (**) Mecklenburg (N. C.)
May 30 (*†) Decoration or Memorial Day (exc. 5 So. States) **Thurs.**
June 3 (**) Jefferson Davis Day (Ala., Fla., Ga., Ky., La., Miss., S. C., Tenn., Tex.)
June 11 (**) Kamehameha (Haw.)
June 14 (**) Flag Day (Pa.)
June 15 (**) Pioneer Day (Idaho)
June 16 (***) Father's Day
June 17 (**) Bunker Hill (Suffolk Co., Mass.), **Mon.**
June 18 (***) Father's Day
June 20 (**) West Virginia Day
July 4 (*†) Independence (all), **Thurs.**
July 13 (**) Forrest's Day (Tenn.)
July 24 (**) Pioneer Day (Utah)
Aug. 1 (**) Colorado Day
Aug. 12 (**) Victory (R. I.)
Aug. 14 (**) V. J. Day (Ark.)
Aug. 16 (**) Bennington, Vt. Bat.
Aug. 30 (**) Huey Long (La.)
Sept. 2 (*†) Labor Day (all), **Mon.**
Sept. 9 (**) Admission Day (Cal.)
Sept. 12 (**) Defender's (Md.)
Sept. 16 (**) Cherokee (Okla.)
Sept. 17 (***) Citizenship Day
Sept. 27 (***) Am. Indian Day
Oct. 10 (**) Okla. Hist. Day
Oct. 11 (**) Pulaski Day (Nebr.)
Oct. 12 (*†) Columbus (All States exc. 10), **Sat.**
Oct. 18 (**) Alaska Day
Oct. 24 (***) United Nations Day
Oct. 31 (**) Nevada Day
Nov. 1 (**) All Saints' Day (La.)
Nov. 4 (**) Will Rogers (Okla.)
Nov. 11 (*†) Veterans' (All States exc. 4), **Mon.**
Nov. 16 (***) Sadie Hawkins Day
Nov. 23 (**) Repudiation (Md.)
Nov. 28 (*†) Thanksgiving Day
Dec. 10 (**) Wyoming Day
Dec. 15 (***) Bill of Rights Day
Dec. 21 (***) Forefathers' Day
Dec. 25 (*†) Christmas Day (all) **Wed.**

LONG HOLIDAY WEEKENDS

The year 1968 seems to hold better vacation weekends than any we have seen for some time. The "for sure" three-day ones are as follows: Christmas ('67) Mon.; New Year's ('68) Mon.; Lincoln's Mon.; Patriots', Fri. (Boston); Fast, Mon. (N. H.); Bunker Hill, Mon. (Mass.); Victory, Mon. (R. I.); Labor Day, Mon.; and Veterans', Mon. Washington's, Decoration, Independence, and Thanksgiving are all on Thursdays — and Christmas, 1968, is on a Wednesday.

1967

JANUARY.

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	–	–	–	–
–	–	–	–	–	–	–

FEBRUARY.

S	M	T	W	T	F	S
–	–	–	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	–	–	–	–
–	–	–	–	–	–	–

MARCH.

S	M	T	W	T	F	S
–	–	–	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	–
–	–	–	–	–	–	–

APRIL.

S	M	T	W	T	F	S
–	–	–	–	–	–	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	–	–	–	–	–	–

MAY.

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	–	–	–
–	–	–	–	–	–	–

JUNE.

–	–	–	–	1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	–
–	–	–	–	–	–	–

JULY.

–	–	–	–	–	–	1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	–	–	–	–	–

AUGUST.

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20	21	22	23	24	25	26
27	28	29	30	31	–	–
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SEPTEMBER.

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17	18	19	20	21	22	23
24	25	26	27	28	29	30
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OCTOBER.

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22	23	24	25	26	27	28
29	30	31	–	–	–	–
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NOVEMBER.

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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	–	–
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DECEMBER.

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1968

JANUARY.

S	M	T	W	T	F	S
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FEBRUARY.

S	M	T	W	T	F	S
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MARCH.

S	M	T	W	T	F	S
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APRIL.

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MAY.

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JUNE.

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23	24	25	26	27	28	29
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JULY.

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AUGUST.

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SEPTEMBER.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

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1969

JANUARY.

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19	20	21	22	23	24	25
26	27	28	29	30	31	–
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FEBRUARY.

S	M	T	W	T	F	S
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23	24	25	26	27	28	–
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MARCH.

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23	24	25	26	27	28	29
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APRIL.

S	M	T	W	T	F	S
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27	28	29	30	–	–	–
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MAY.

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18	19	20	21	22	23	24
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JUNE.

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JULY.

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AUGUST.

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SEPTEMBER.

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OCTOBER.

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NOVEMBER.

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DECEMBER.

–	1	2	3	4	5	6
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	–	–	–
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Introduction

STANDARD TIME IS USED THROUGHOUT THIS ALMANAC
Add 1 hr April 28, (deduct it Oct. 27) for Daylight Saving Time

Chronological Cycles for 1968.

Golden Number . .	12	Solar Cycle	17
Epact	30	Dominical Letter* .	G-F
Roman Indiction . .	6		
Year of Julian Period	6681		

**The Dominical Letter is used instead of the usual "S" for "Sunday" by almanac makers for determining at a glance (a) the year of the almanac, (b) on what day of the week any day of the month will fall.*

Movable Feasts and Fasts for 1968.

SeptuagesimaSun.	Feb. 11	Good Friday	Apr. 12	Whitsunday	June 2
Shrove Sunday	Feb. 25	Easter Sunday	Apr. 14	Trinity Sunday	June 9
Ash Wednesday	Feb. 28	Low Sunday	Apr. 21	Corpus Christi	June 13
1st Sun. in Lent	Mar. 3	Rogation Sun.	May 19	1st Sunday in Advent	Dec. 1
Palm Sunday	Apr. 7	Ascension Day	May 23		

THE SEASONS OF 1968

Winter (1967)	December 22	8.17 A.M. (Sun enters Capricornus)
Spring (1968)	March 20	8.22 A.M. (Sun enters Aries)
Summer	June 21	3.13 A.M. (Sun enters Cancer)
Fall	September 22	6.26 P.M. (Sun enters Libra)
Winter	December 21	2.00 P.M. (Sun enters Capricornus)

Names and Characters of the Principal Planets.

☉ ☽ ☿ ♀ ♂ ♃ ♄ ♅ ♆ ♇ The Sun. The Moon. Mercury. Venus. The Earth. Mars. Jupiter. Saturn. ♅ or ♅ Uranus. Neptune. Pluto.

Names and Characters of the Aspects.

☌ Conjunction, or in the same degree.
□ Quadrature, 90 degrees.
☍ Opposition, or 180 degrees.
☊ Dragon's Head, or Ascending Node.
☋ Dragon's Tail, or Descending Node.

Calendar Page Explanations and Signs

On the right hand pages you will find every now and again the symbols given above conjoined in groups of three to give you what is happening in the heavens. See Glossary, Page 119. Example: ☌♃☾ on Page 25, opposite Jan. 18 means Jupiter (♃) and the moon (☾) are on that day in conjunction (☌), or nearest to each other.

Weather Forecasts

For the U.S.A. in general, see Page 19 and italics on pages 25–47, next to the Farmer's Calendars. For specific weather forecasts in eight different climatic areas, see pages 88, 90, 91, 92, 94, 97, 103, 104, and 109.

Planting Tables

See Page 52. Usual planting dates as well as those *most favored by the moon* are given for most parts of the U.S.A. Favorable signs are also included. See Pages 24–46 for the days on which these occur. Also see Page 56.

Astrology Signs and Meanings

See Pages 56–59 for birth date superstitions as well as those pertaining to brush cutting, weaning, planting, marriage, etc.

Planets

See Pages 48–49. Which planet is shining so brightly for you? These pages will help you to know. Also, the configurations these planets are making with each other are given in the symbols on Pages 25–47. Astrologers as well as students of the varying strength of radio and television signals find these configurations useful.

Tides

See Pages 24–46 for the times of morning and evening high tides, Pages 25–47 for the heights of these tides. Page 112 gives the corrections needed for your locality.

Regional Sun, Moon, etc., Times

See Part III, page 88, for correcting the times (given for Boston only on pages 24 to 46) for your area. There are separate correction tables for eight different areas — in one of which you will find yours: see pages 24–46 for Boston; 91 for New England (exc. Boston); 93 for Eastern States (exc. New England); 96 for Midwest; 102 for West and Mountain States; 108 for South.

Questions gladly answered free of charge if accompanied by self-addressed, stamped envelope mailed to: THE OLD FARMER'S ALMANAC, DUBLIN, N. H., 03444.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	23s.03	7	22 26	13	21 33	19	20 26	25	19 04		
2	22 58	8	22 18	14	21 23	20	20 13	26	18 49		
3	22 52	9	22 10	15	21 12	21	20 00	27	18 34		
4	22 46	10	22 01	16	21 01	22	19 47	28	18 19		
5	22 40	11	21 52	17	20 50	23	19 33	29	18 03		
6	22 33	12	21 43	18	20 38	24	19 19	30	17 47		

☽ First Quarter, 7th day, 9 h. 23 m., morning, E.
○ Full Moon, 15th day, 11 h. 12 m., morning, W.
☾ Last Quarter, 22nd day, 2 h. 38 m., evening, W.
● New Moon, 29th day, 11 h 30 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS—PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast. m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
1	1	M.	7 13	O	4 22	C	9 09	12	11¾	—	8$^{A}_{M}$55	O	5$^{P}_{M}$57	C	AQR	2
2	2	Tu.	7 13	O	4 23	C	9 10	12	0½	0½	9 32	N	7 11	D	AQR	3
3	3	W.	7 13	O	4 24	C	9 11	11	1¼	1½	10 01	M	8 23	F	PSC	4
4	4	Th.	7 13	O	4 25	C	9 12	11	2	2¼	10 24	L	9 30	G	PSC	5
5	5	Fr.	7 13	O	4 26	C	9 13	11	3	3	10 45	J	10 35	H	PSC	6
6	6	Sa.	7 13	N	4 27	D	9 14	10	3¾	4	11 03	I	11$^{P}_{M}$37	J	ARI	7
7	7	☪	7 13	N	4 28	D	9 15	10	4½	5	11 22	H	—	—	ARI	8
8	8	M.	7 13	N	4 29	D	9 16	9	5½	5¾	11$^{A}_{M}$40	F	12$^{A}_{M}$39	K	TAU	9
9	9	Tu.	7 13	N	4 30	D	9 17	9	6¼	6¾	12$^{P}_{M}$02	E	1 42	L	TAU	10
10	10	W.	7 12	N	4 31	D	9 19	8	7	7½	12 27	D	2 45	N	TAU	11
11	11	Th.	7 12	N	4 32	D	9 20	8	8	8½	12 57	C	3 49	O	G'M	12
12	12	Fr.	7 12	N	4 33	D	9 21	8	8¾	9¼	1 35	B	4 54	P	G'M	13
13	13	Sa.	7 12	N	4 34	D	9 23	7	9½	10	2 23	A	5 54	Q	CNC	14
14	14	☪	7 11	N	4 35	D	9 24	7	10¼	10¾	3 20	A	6 50	Q	CNC	16
15	15	M.	7 11	N	4 37	D	9 26	7	11	11½	4 26	B	7 36	P	—	—
16	16	Tu.	7 10	N	4 38	D	9 27	6	11½	—	5 37	D	8 16	O	LEO	17
17	17	W.	7 10	N	4 39	D	9 29	6	0	0¼	6 50	E	8 48	N	LEO	18
18	18	Th.	7 09	N	4 40	D	9 31	5	0¾	1	8 03	G	9 14	L	LEO	19
19	19	Fr.	7 09	N	4 41	D	9 33	5	1½	1¾	9 15	H	9 37	K	VIR	20
20	20	Sa.	7 08	N	4 43	D	9 34	5	2¼	2½	10 28	J	9 59	I	VIR	21
21	21	☪	7 08	N	4 44	D	9 36	5	3	3½	11$^{P}_{M}$42	K	10 21	H	LIB	22
22	22	M.	7 07	N	4 45	D	9 38	4	4	4½	—	—	10 44	F	LIB	23
23	23	Tu.	7 06	N	4 46	D	9 40	4	4¾	5½	12$^{A}_{M}$58	M	11 10	E	SCO	24
24	24	W.	7 05	N	4 47	D	9 42	4	5¾	6½	2 16	N	11$^{A}_{M}$43	C	SCO	25
25	25	Th.	7 05	N	4 49	D	9 44	4	6¾	7½	3 33	O	12$^{P}_{M}$25	B	SGR	26
26	26	Fr.	7 04	M	4 50	E	9 46	3	8	8½	4 47	P	1 17	B	SGR	27
27	27	Sa.	7 03	M	4 51	E	9 48	3	9	9½	5 52	P	2 21	B	CAP	28
28	28	☪	7 02	M	4 53	E	9 51	3	9¾	10½	6 46	P	3 33	C	CAP	29
29	29	M.	7 01	M	4 54	E	9 53	3	10¾	11½	7 27	O	4 48	D	AQR	0
30	30	Tu.	7 00	M	4 55	E	9 55	2	11½	—	8 00	M	6 01	E	AQR	1
31	31	W.	6 59	M	4 57	E	9 57	2	0¼	0½	8$^{A}_{M}$26	L	7$^{P}_{M}$11	F	PSC	2

JANUARY hath 31 days. [1968

As the wild air stirs and sways
The tree-swung cradle of a child,
So the breath of these rude days
Rocks the year; be calm and mild
Trembling hours; she will arise
With new love in her eyes.
P. B. Shelley

D. M.	D. W.	Dates, Feasts, Fasts, Aspects, Tide Heights	*Weather* ↓
1	M.	**Circumcision** • Tides {11.0 —	*Crunch*
2	Tu.	Unlucky Day ☽ Stat. in R.A. {9.2 10.7	*or squeaks,*
3	W.	♂☌☾ Saturn Eve. Star-Apr. 4 {9.2 10.3	*is how*
4	Th.	Earth closest to Sun ☉ Stat. in R.A. {9.0 9.8	*cold snow*
5	Fr.	Twelfth Night Take down Xmas greens {8.9 9.2	*speaks.*
6	Sa.	**Epiph.** ☾ on Eq. • ♂☍☾ {8.7 8.6	*No*
7	☾	**1sta. Ep.** Mars Eve. Star—Jun. 21 {8.6 8.1	*thaw,*
8	M.	Battle of New Orleans Hol. La. Tides {8.5 7.7	*instead*
9	Tu.	1st. Am. Balloon Ascent 1793 ☾ in Apo. {8.5 7.5	*it is*
10	W.	To avoid trouble (See P. 74) Keep your nose on your face	*braw.*
11	Th.	Fast of Tebet Louisville Torn. 1898 {8.8 7.5	*Throw*
12	Fr.	This Day Parallel with Nov. 30 Tides {9.0 7.7	*on an-*
13	Sa.	☾ runs high [14th—Fav. Conc. Female Child] {9.3 7.9	*other*
14	☾	**2nda. Ep.** St. Hilary Coldest Day {9.8 8.2	*log*
15	M.	The Full Wolf Moon • First Ocean Liner 1818 {9.8 8.4	*for me*
16	Tu.	Boston Harbor Frozen 1638 • Pa. R.R. Elec. 1933 {10.1 —	*and*
17	W.	Favorable for Marrying Jan. 13-Feb. 11 {8.7 10.2	*the dog.*
18	Th.	60 Below Idaho 1943 ♂♌☾ {9.0 10.2	*Warm*
19	Fr.	Robt. E. Lee Birthday • Dooley D. 1961 Hol. So.	*winds*
20	Sa.	☾ on Eq. ♂☉☾ Fav. Conc. Male Ch. {9.5 9.8	*with*
21	☾	**3rda. Ep.** Tides {9.7 9.5	*rain*
22	M.	First Am. Novel Publ. Boston 1789 Tides {9.8 9.0	*raise*
23	Tu.	*God gives the milk but not the pail* Tides {9.8 8.6	*Cain.*
24	W.	Raccoons Mating ♂ΨΨ☾ • ☾ in Peri. {9.9 8.4	*From*
25	Th.	Conversion of St. Paul • USS Maine at Havana '98	*Omaha*
26	Fr.	Grissom, White & Chaffe '67 ♂♀☾ Hol. Ark. {10.1 8.4	*to*
27	Sa.	☾ rides low Blizzard Midwest '67 {10.3 8.6	*Salem,*
28	☾	**4tha. Ep.** Herring Spawn {10.5 8.9	*it's one*
29	M.	Druid's New Year Begins Tides {10.6 9.1	*big*
30	Tu.	Chinese New Year ♂☿☾ • ☿ Gr. El. E. F.D.R. Hol. Ky.	
31	W.	Louisiana Purchase 1803 Tides {9.2 10.4	*slalom.*

Farmer's Calendar.

Our town is growing fast, and to many of us there is no communication between its past and present.

But today as the bells toll for old John's passing—old John whose life was spent in the research and recording of the town's history, as faithfully as if he had been its founder—today as the bell tolls, it is as if we understood (as John would have us, I think) that not alone for him the bell tolls, but for all the slow and patient years through which our town has grown.

It is as if the present slept. Time rolls up the curtain. It is a hundred years ago. From the river the tumble of logs, the whine of the saw, the chatter of bobbins at Jones's mill. Along Main Street the clatter of hoofs, the clump of country boots on the sidewalk, and the patter, patter of a pair of dainty feminine button tops—size five—hurrying past the guffaws at Smith's corner, where two flights up Lawyer Brown and Squire Harris have just concluded a mutually profitable piece of business.

The curtain falls, but before it does, some of us will understand (as John did) that in itself the passing of years is nothing. To the grass that grows each year on Chapel Hill, it is only the seasons that pass: to the water that hurries away under the town bridge, it is forever the same stream.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	17s. 13	7	15 27	13	13 30	19	11 26	25	9 15
2	16 56	8	15 08	14	13 10	20	11 05	26	8 53
3	16 39	9	14 49	15	12 50	21	10 43	27	8 30
4	16 21	10	14 29	16	12 29	22	10 21	28	8 08
5	16 03	11	14 10	17	12 08	23	9 59	29	7 45
6	15 45	12	13 50	18	11 47	24	9 37		

☽ First Quarter, 6th day, 7 h. 21 m., morning, E.
○ Full Moon, 14th day, 1 h. 43 m., morning, W.
☾ Last Quarter, 20th day, 10 h. 28 m., evening, E.
● New Moon, 28th day, 1 h. 56 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
32	1	Th.	6 58	M	4 58	E	10 00	2	1	1	$S^{A}_{M}47$	K	$S^{P}_{M}18$	H	PSC	3
33	2	Fr.	6 57	M	4 59	E	10 02	2	1½	1¾	9 06	J	9 23	I	ARI	4
34	3	Sa.	6 56	M	5 00	E	10 04	2	2¼	2½	9 24	H	10 26	K	ARI	5
35	4	☾	6 55	M	5 02	E	10 07	2	3	3¼	9 43	G	$11^{P}_{M}29$	L	ARI	6
36	5	M.	6 54	M	5 03	E	10 09	2	3¾	4	10 04	F	—	—	TAU	7
37	6	Tu.	6 53	M	5 04	E	10 12	2	4½	5	10 27	D	$12^{A}_{M}32$	M	TAU	8
38	7	W.	6 52	M	5 06	E	10 14	2	5½	6	10 55	C	1 36	N	G'M	9
39	8	Th.	6 50	M	5 07	F	10 17	2	6¼	7	$11^{A}_{M}29$	B	2 40	O	G'M	10
40	9	Fr.	6 49	L	5 08	F	10 19	1	7¼	7¾	$12^{P}_{M}12$	A	3 42	P	G'M	11
41	10	Sa.	6 48	L	5 10	F	10 22	1	S	S¾	1 05	A	4 40	Q	CNC	12
42	11	☾	6 47	L	5 11	F	10 24	1	9	9½	2 09	B	5 30	P	CNC	13
43	12	M.	6 45	L	5 12	F	10 27	1	9¾	10¼	3 18	C	6 12	P	LEO	14
44	13	Tu.	6 44	L	5 14	F	10 29	1	10½	11	4 32	D	6 47	N	—	—
45	14	W.	6 43	L	5 15	F	10 32	1	11¼	11¾	$5^{M}_{2}47$	F	7 16	M	LEO	15
46	15	Th.	6 41	L	5 16	F	10 35	2	—	0	7 02	H	7 41	K	VIR	16
47	16	Fr.	6 40	L	5 17	F	10 37	2	0½	0½	S 16	J	S 03	J	VIR	17
48	17	Sa.	6 39	L	5 19	F	10 40	2	1	1½	9 31	K	S 25	H	LIB	18
49	18	☾	6 37	L	5 20	F	10 43	2	1¾	2¼	$10^{P}_{M}48$	L	S 48	G	LIB	19
50	19	M.	6 36	L	5 21	F	10 45	2	2½	3	—	—	9 14	E	SCO	20
51	20	Tu.	6 34	L	5 23	F	10 48	2	3½	4	$12^{A}_{M}06$	N	9 44	D	SCO	21
52	21	W.	6 33	K	5 24	G	10 51	2	4½	5	1 23	O	10 22	C	SGR	22
53	22	Th.	6 31	K	5 25	G	10 54	2	5½	6¼	2 38	P	$11^{A}_{M}10$	B	SGR	23
54	23	Fr.	6 30	K	5 26	G	10 56	2	6½	7½	3 45	Q	$12^{P}_{M}09$	A	CAP	24
55	24	Sa.	6 28	K	5 28	G	10 59	2	7¾	S½	4 41	P	1 17	B	CAP	25
56	25	☾	6 27	K	5 29	G	11 02	2	S¾	9½	5 25	O	2 30	C	AQR	26
57	26	M.	6 25	K	5 30	G	11 06	3	9¾	10¼	6 00	N	3 43	E	AQR	28
58	27	Tu.	6 24	K	5 31	G	11 08	3	10½	11	6 27	M	4 54	F	PSC	29
59	28	W.	6 22	K	5 33	G	11 10	3	11¼	11¾	6 49	K	6 02	G	PSC	0
60	29	Th.	6 21	K	5 34	G	11 13	3	—	0	$7^{A}_{M}09$	J	$7^{P}_{M}08$	1	PSC	1

FEBRUARY hath 29 days. [1968

For though on hoary twigs no buds peep out
And even the hardy brambles cease to sprout,
Beneath dread winter's level sheets of snow
The sweet nutritious turnip deigns to grow.
Robert Bloomfield

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	*Weather* ↓
1	Th.	St. Bridget • ☌♂☾ • {9.3 10.1	*Frozen*
2	Fr.	Pur. of M. ☾on Eq. Ground Hog Day {9.3 9.6	*ears*
3	Sa.	The Four Chaplains ☌♄☾ Tides {9.1 9.1	*and*
4	G	5th a. Ep. L. Braille Born 1809 {9.0 8.5	*gears.*
5	M.	*Great calamities travel in threes* ☿Stat. ☿in R.A. {8.8 8.0	*Woops,*
6	Tu.	☾in Apo. La Salle at Mouth Illinois River 1682 {8.6 7.6	*hold*
7	W.	Penthouse Blaze Mont., Ala. '67 Tides {8.4 7.3	*fast,*
8	Th.	Year's Lowest P.M. Low Tide (W. Mar. 8) Tides {8.4 7.2	*this*
9	Fr.	Japs Left (1943) Guadalcanal Tides {8.5 7.3	*storm's*
10	Sa.	☾runs high Sun Dials about correct (9–14) {8.7 7.5	*not the*
11	G	Sept. S. Don't Marry until After April 21st	*last.*
12	M.	Lincoln's Birthday {9.6 8.4	*Another's*
13	Tu.	U.S.S. Maine Exploded (15th) 1898 {10.0 8.9	*breeding*
14	W.	St. Val. ☌☽☾ The Full Snow Moon Hol. Ariz.	*on a*
15	Th.	Auld Deer Worst In Year ☌☿☉ Inf.	*northerly*
16	Fr.	☾on Eq. ☌♁☾ Windy 1967 {9.8 10.6	*course*
17	Sa.	*Try every man to please And you'll have no ease* {10.2 10.4	*from*
18	G	Sex. S. ☾in Perl. {10.3 10.0	*Medicine*
19	M.	*As the days lengthen, The cold strengthens* Tides {10.4 9.5	*Hat*
20	Tu.	☽☌☉ • ☌♆☾ Tides {10.2 8.9	*to*
21	W.	[20th] First U.S. Earth Orbit '62 Tides {10.0 8.4	*the*
22	Th.	Wash. B'day Williams Chart. 1793	*Montcalm*
23	Fr.	☾rides low Jupiter Eve. Star—Sept. 8 {9.6 8.0	*flat.*
24	Sa.	World's 1st (1409) Insane Asylum, Valencia, Spain {9.7 8.2	*Feb.'s*
25	G	Quin. S. St. Matthias ☌♀☾	*extra*
26	M.	☌☿☾ [27th ☿, ♆Stat. ♆In R.A.] {10.0 8.9	*day*
27	Tu.	Shrove Tu. Mardi Gras Hol. Ala. Fla., La.	*brings*
28	W.	Ash Wed. Lent begins {10.2 9.4	*a storm they*
29	Th.	Clipper Rainbow Last Trip Canton to N.Y. 88 days 1848	*say.*

This is "Leape Month," the 29th "Leape Day." The one during which maids propose to lads they come their way.

Farmer's Calendar.

Squire Brown and I have just been over to tell the Agricultural Conservation People about our needs this spring—to see how much our farm costs can be shared by the government—for fertilizer, for lime, for brush cutting, for a drainage ditch, or whatever else there is on "the hand-out list," as Squire puts it.

Squire is a thrifty man. That's why he is here with me. But on the way home, smoking his bitter pipe of conscience, he condemns the whole procedure as dubious, dangerous, and probably immoral. At best he is a fellow mendicant, so I enjoy his agony. Personally, I think three hundred dollars worth of fertilizer and a farm pond is just wonderful.

But listen to Squire. "Son, I'd never have believed I'd see the day I'd let the government tell me how to run my farm (He hasn't. He just told them what he wanted.) or accept a dollar (He means six hundred dollars.) to do it. And I wouldn't, if things weren't so hard with me this spring (Steady, Squire.). You know what this means, son? Selling out to the government, that's what. (How about your taxes, Squire? This is just reciprocal aid.)"

Squire continues, "My father was his own man, beholden to no one, and the better and prouder for it. (How right you are, Squire. Let's never, never, never accept another government dollar—until next year.)"

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	7S. 22	7	5 04	13	2 42	19	0S.20	25	2 02
2	6 59	8	4 40	14	2 19	20	0N.03	26	2 25
3	6 36	9	4 17	15	1 55	21	0 27	27	2 49
4	6 13	10	3 53	16	1 31	22	0 51	28	3 12
5	5 50	11	3 30	17	1 08	23	1 14	29	3 36
6	5 27	12	3 06	18	0 44	24	1 38	30	3 59

☽ First Quarter, 7th day, 4 h. 21 m., morning, W.
○ Full Moon, 14th day, 1 h. 53 m., evening, E.
☾ Last Quarter, 21st day, 6 h. 08 m., morning, W.
● New Moon, 28th day, 5 h. 49 m., evening, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
61	1	Fr.	6 19	K	5 35	G	11 16	3	0½	0¾	7A M28	I	8P M12	J	ARI	2
62	2	Sa.	6 17	K	5 36	G	11 19	4	1	1½	7 46	G	9 15	K	ARI	4
63	3	F	6 16	K	5 37	G	11 22	4	1¾	2	8 05	F	10 18	M	TAU	5
64	4	M.	6 14	J	5 39	H	11 25	4	2¼	2¾	8 27	E	11P M22	N	TAU	6
65	5	Tu.	6 12	J	5 40	H	11 27	4	3	3½	8 53	D	—	—	G'M	7
66	6	W.	6 11	J	5 41	H	11 30	4	3¾	4¼	9 25	B	12A M26	O	G'M	8
67	7	Th.	6 09	J	5 42	H	11 33	5	4½	5¼	10 03	A	1 29	P	G'M	9
68	8	Fr.	6 08	J	5 43	H	11 36	5	5½	6¼	10 51	A	2 28	Q	CNC	10
69	9	Sa.	6 06	J	5 45	H	11 39	5	6½	7¼	11A M49	A	3 21	Q	CNC	11
70	10	F	6 04	J	5 46	H	11 42	5	7½	8	12P M55	B	4 06	P	LEO	12
71	11	M.	6 02	J	5 47	H	11 45	6	8¼	9	2 08	D	4 43	O	LEO	13
72	12	Tu.	6 01	J	5 48	H	11 47	6	9¼	9¾	3 22	E	5 15	M	VIR	14
73	13	W.	5 59	J	5 49	H	11 50	6	10	10½	4 38	G	5 41	L	VIR	15
74	14	Th.	5 57	J	5 50	H	11 53	7	10¾	11¼	5 54	H	6 04	J	—	—
75	15	Fr.	5 55	J	5 52	I	11 56	7	11½	—	7 12	J	6 27	I	LIB	16
76	16	Sa.	5 54	I	5 53	I	11 59	7	0	0¼	8 30	L	6 50	G	LIB	17
77	17	F	5 52	I	5 54	I	12 02	7	0½	1	9 50	M	7 15	F	SCO	18
78	18	M.	5 50	I	5 55	I	12 05	8	1½	2	11P M11	O	7 44	D	SCO	19
79	19	Tu.	5 49	I	5 56	I	12 08	8	2¼	2¾	—	—	8 21	C	SGR	20
80	20	W.	5 47	I	5 57	I	12 10	8	3¼	3¾	12A M29	P	9 07	B	SGR	21
81	21	Th.	5 45	I	5 58	I	12 13	9	4	5	1 39	P	10 03	A	CAP	22
82	22	Fr.	5 43	I	6 00	I	12 16	9	5¼	6	2 39	P	11A M08	B	CAP	23
83	23	Sa.	5 42	I	6 01	I	12 19	9	6½	7¼	3 26	P	12P M19	C	CAP	24
84	24	F	5 40	I	6 02	I	12 22	10	7½	8¼	4 02	N	1 31	D	AQR	25
85	25	M.	5 38	I	6 03	I	12 25	10	8½	9¼	4 31	M	2 42	E	AQR	26
86	26	Tu.	5 36	I	6 04	J	12 28	10	9½	10	4 54	L	3 50	G	PSC	27
87	27	W.	5 35	II	6 05	J	12 31	10	10¼	10¾	5 14	K	4 56	H	PSC	28
88	28	Th.	5 33	H	6 06	J	12 33	11	11	11¼	5 33	I	5 59	J	ARI	29
89	29	Fr.	5 31	H	6 08	J	12 36	11	11½	—	5 52	H	7 03	K	ARI	1
90	30	Sa.	5 29	H	6 09	J	12 39	11	0	0¼	6 10	G	8 06	L	TAU	2
91	31	F	5 28	H	6 10	J	12 42	12	0½	1	6A M31	E	9P M10	M	TAU	3

MARCH hath 31 days. [1968

Slayer of the winter, thou art here again;
O Welcome thou that bring'st summer nigh!
The bitter wind makes not thy victory vain,
Nor will we mock thee for thy faint blue sky.
William Morris

D. M.	D. W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓
1	Fr.	St. David ☾ on Eq. • ☌ ♂ ☾ • ☌ ♄ ☾	*South*
2	Sa.	[1st World Prayer Hol. Neb.] Hol. Tex. Tides {9.5 9.4	*is*
3	F	1st S. L. Alex. Graham Bell B. 1847 {9.4 8.9	*wild,*
4	M.	☾ ♂ ♄ Cyclops 1918 Mystery Tides {9.2 8.5	*Paw*
5	Tu.	☾ in Apo. Boston 1770 Massacre Tides {8.9 8.0	*is too;*
6	W.	*Everybody's girl is nobody's girl* Ember Days 6, 8, 9	*the plow*
7	Th.	☌ ☿ ♀ Luther Burbank Tides {8.4 7.3	*just*
8	Fr.	☾ Runs high Year's Lowest P.M. Low Tide (W. Feb. 8)	*filled*
9	Sa.	Maple Tree Sap Running • Meteor Storm 1822 {8.4 7.8	*his*
10	F	2nd S. L. Dan'l Boone capt. by Indians 1778	*drive*
11	M	Blizzard of 1888 began ☍ ☋ ☉ Tides {9.1 8.2	*anew.*
12	Tu.	Saint Gregory ☌ ♃ ☾ • ☿ Gr. El. W.	*It's*
13	W.	[14th Give Blood from Right Arm Only] {10.1 9.6	*divine,*
14	Th.	Purim ☌ ♁ ☾ The Full Worm Moon	*honey —*
15	Fr.	Ides begin ☾ on Eq. Hol. Tenn. {10.7 —	*clear,*
16	Sa.	Day Equals Night ☾ in Peri. {10.7 10.7	*sunny.*
17	F	3rd S. L. St. Pat. ☍ ♁ ☉	*Spring,*
18	M.	☌ ♆ ☾ New Bedford Inc. 1847 {11.1 10.0	*they*
19	Tu.	Swallows Return to San Capistrano, Calif. Tides {10.9 9.4	*say,*
20	W.	Spring begins 8.22 A.M. • Sun. ent. Aries	*don't*
21	Th.	*When in doubt, do nowt* ☾ rides low {10.0 8.3	*come 'til*
22	Fr.	Earliest poss. Easter date Oysters spawn Hol. Okla.	*May.*
23	Sa.	Jap cherry trees blooming Japan Tides {9.4 8.1	*Brooks &*
24	F	4th S. L. Longfellow died 1882 {9.4 8.4	*bubbles*
25	M.	Annunc. Lady Day • Hol. Md. {9.5 8.8	*foreshadow*
26	Tu.	☌ ☿ ☾ • ☌ ♀ ☾ Hol. Haw.	*troubles.*
27	W.	*The more the years, The fewer the tears.* Tides {9.7 9.4	*Storms.*
28	Th.	☾ on Eq. ☉ Partial Eclipse {9.7 9.6	*for sure,*
29	Fr.	Foch commands Allies 1918 Tides {9.5 —	*of poor*
30	Sa.	☌ ♂ ☾ Holiday Alaska Tides {9.7 9.3	*man's*
31	F	Passion S. ☌ ☿ ♀ {9.7 9.1	*manure.*

Farmer's Calendar.

Herb and his pair of oxen are labouring through the deep wet snow of late March, the woodsled with the great sap tank bumping and sliding clumsily around and between and against the rough maples—a tedious, heart-thumping business. On every trunk of the steep sugarbush hang the wooden buckets. Down in the hollow the sap house is wreathed in steam.

Uncle brushes the rotten snow off the flat rock that makes a natural seat under a young maple. Herb has carved his initials and date on it—HG 1911—and I put mine underneath his. Uncle watches quietly, smoking his pipe and taking the morning, before going down to the sap house again.

There was nothing special about this morning, one of many that would follow in quiet succession until the sugaring was done. That I was not to see the grove again for fifty years, I did not know. But now, fifty years have passed—almost to the day, the hour—since that morning—and I am here alone. There are no buckets, no sap house, no business to be finished. But here is Uncle's stone, snug against the full-grown maple, and the bark-thickened initials that I alone, perhaps, can read.

Fifty years ago I found no wonder in that lovely spring morning, but I do in this. Most of our lives are spent with memories of things to which we may never return—doors forever locked. But I have returned, and time has unlocked this door for me.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	4 N. 45	7	7 02	13	9 15	19	11 22	25	13 22		
2	5 08	8	7 24	14	9 36	20	11 42	26	13 41		
3	5 31	9	7 47	15	9 58	21	12 03	27	14 00		
4	5 54	10	8 09	16	10 19	22	12 23	28	14 19		
5	6 17	11	8 31	17	10 40	23	12 43	29	14 38		
6	6 40	12	8 53	18	11 01	24	13 02	30	14 56		

☽ First Quarter, 5th day, 10 h. 28 m., evening, W.
○ Full Moon, 12th day, 11 h. 52 m., evening, W.
☾ Last Quarter, 19th day, 2 h. 35 m., evening, W.
● New Moon, 27th day, 10 h. 22 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS—PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
92	1	M.	5 26	H	6 11	J	12 45	12	1	1½	6$^{A}_{M}$55	D	10$^{P}_{M}$14	O	TAU	4
93	2	Tu.	5 24	H	6 12	J	12 47	12	1¾	2¼	7 24	C	11$^{P}_{M}$17	P	G'M	5
94	3	W.	5 23	H	6 13	J	12 51	13	2½	3	8 00	B	—	–	G'M	6
95	4	Th.	5 21	H	6 14	J	12 53	13	3	3¾	8 43	A	12$^{A}_{M}$18	Q	CNC	7
96	5	Fr.	5 19	H	6 15	J	12 56	13	4	4½	9 36	A	1 13	Q	CNC	8
97	6	Sa.	5 17	H	6 16	J	12 59	13	5	5½	10 37	B	2 00	P	CNC	9
98	7	F	5 16	H	6 18	K	13 02	14	5¾	6½	11$^{A}_{M}$45	C	2 39	P	LEO	10
99	8	M.	5 14	G	6 19	K	13 05	14	6¾	7½	12$^{P}_{M}$58	D	3 13	N	LEO	11
100	9	Tu.	5 12	G	6 20	K	13 07	14	7¾	8¼	2 11	F	3 40	M	VIR	12
101	10	W.	5 11	G	6 21	K	13 10	15	8½	9	3 26	H	4 05	K	VIR	13
102	11	Th.	5 09	G	6 22	K	13 13	15	9½	10	4 44	I	4 27	J	LIB	14
103	12	Fr.	5 07	G	6 23	K	13 16	15	10¼	10¾	6 02	K	4 50	H	LIB	15
104	13	Sa.	5 06	G	6 24	K	13 19	15	11	11½	7 24	L	5 14	F	—	—
105	14	F	5 04	G	6 25	K	13 21	16	—	0	8 47	N	5 42	E	SCO	16
106	15	M.	5 03	G	6 27	K	13 24	16	0¼	0¾	10 10	O	6 15	C	SCO	17
107	16	Tu.	5 01	G	6 28	K	13 27	16	1	1¾	11$^{P}_{M}$27	P	6 59	B	SGR	18
108	17	W.	4 59	G	6 29	K	13 30	16	2	2½	—	–	7 54	A	SGR	19
109	18	Th.	4 58	G	6 30	K	13 32	17	3	3½	12$^{A}_{M}$33	P	8 58	B	CAP	20
110	19	Fr.	4 56	G	6 31	L	13 35	17	4	4¾	1 25	P	10 09	B	CAP	21
111	20	Sa.	4 55	F	6 32	L	13 37	17	5	5¾	2 05	O	11$^{A}_{M}$22	D	AQR	23
112	21	F	4 53	F	6 33	L	13 40	17	6	7	2 35	N	12$^{P}_{M}$34	E	AQR	24
113	22	M.	4 52	F	6 34	L	13 43	17	7¼	8	3 00	L	1 42	F	PSC	25
114	23	Tu.	4 50	F	6 36	L	13 45	18	8¼	8¾	3 21	K	2 48	H	PSC	26
115	24	W.	4 49	F	6 37	L	13 48	18	9¼	9½	3 40	J	3 51	I	ARI	27
116	25	Th.	4 47	F	6 38	L	13 51	18	10	10¼	3 58	H	4 54	J	ARI	28
117	26	Fr.	4 46	F	6 39	L	13 53	18	10½	10¾	4 16	G	5 57	L	ARI	29
118	27	Sa.	4 44	F	6 40	L	13 56	18	11¼	11½	4 37	F	7 01	M	TAU	0
119	28	F	4 43	F	6 41	L	13 58	18	11¾	—	4 59	D	8 05	N	TAU	1
120	29	M.	4 41	F	6 42	L	14 01	18	0	0½	5 26	C	9 08	P	G'M	2
121	30	Tu.	4 40	F	6 43	L	14 03	19	0½	1	5$^{A}_{M}$59	B	10$^{P}_{M}$10	P	G'M	3

APRIL hath 30 days. [1968

Under the foot the violet,
Crocus, and hyacinth, with rich inlay
Broidered the ground, more coloured than with stone
Of costliest emblem.

John Milton

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓
1	M.	All Fool's ☾ In Apo. Voice of the Turtle	*April's*
2	Tu.	Wilson's "World Safe for Democracy" 1917 • Hol. Fla. {11.1 9.4	*here*
3	W.	Jesus Crucified 3.00 P.M. 33 A.D. {9.1 8.0	*worst month*
4	Th.	☾ runs high ☌♄☉ Tides {8.8 7.7	*of the*
5	Fr.	Peepers peeping? The Shad are back Tides {8.6 7.4	*year.*
6	Sa.	*You deserve not the sweet* *If you won't taste the sour* {8.5 7.4	*Rain,*
7	F	Palm S. Barnum D. 1891 Tides {8.6 7.7	*sleet,*
8	M.	☌☾ Good news from Washington, D.C.	*hail —*
9	Tu.	Bataan Disaster 1942 30,000 capt. by Japs Tides {9.2 8.8	*then*
10	W.	[11th—Give blood from Left Arm only] {9.7 9.6	*a gale.*
11	Th.	☾ on Eq. • ☌☉☾ Tides {10.1 10.3	*Stay*
12	Fr.	G. Fri The Full Pink Moon Hol. 19 states	*home*
13	Sa.	Total Eclipse Moon. Hol. Ala. Mo. First Day Passover Neb., Okla., Va.	*in*
14	F	Easter ☾ In Peri {— 10.5	*your mumu*
15	M.	☌♆☾ Sardines running Hol. N.C. {11.6 10.3	*during*
16	Tu.	*Fire in the flint shows not till it be struck* Tides {11.5 9.9	*this*
17	W.	Lucy Larcom Died 1893 ☾ Rides low {11.1 9.4	*lulu.*
18	Th.	Maple sap run is about over Tides {10.6 8.8	*These*
19	Fr.	Patriots' Day • Hol. Me., Mass. {10.0 8.5	*days*
20	Sa.	Last day, Brilliant Passover Aurora 1854 {9.5 8.3	*terrific;*
21	F	Low S. Quail saved Israelites Hol. Tex.	*in fact*
22	M.	♈ Stat. in R.A. • Fav. marr. Hol. Neb., Okla., to May 19 Fast Day, N.H.	
23	Tu.	Saint George ☌♀♄ Alewives migrate	*daffodillic.*
24	W.	☾ On Eq. ☿ Sup. Conj. {9.1 9.8	*This weather*
25	Th.	Mark Evan. ☌♄☾ Latest poss. Easter date {9.1 9.6	*brew*
26	Fr.	☌♀☾ Hol. Fla., Ga.. Miss., Utah {9.1 9.7	*includes*
27	Sa.	DAYLIGHT SAVING BEGINS TOMORROW {9.0 9.7	*real*
28	F	2nd S. a. E. ☌☌☾ Tides {8.9 —	*bad*
29	M.	☾ In Apo. Real Unlucky Day {9.7 8.7	*storms*
30	Tu.	Ice out all lakes Casey Jones k. 3.52 A.M. 1900 {9.6 8.5	*too.*

How sweet love seemed that April morn
When first we kissed beside the thorn.
—Bridges

Farmer's Calendar.

Based on the observations of my considerable longevity, I would say that spring hasn't changed much since I was a boy, but boys have. They don't know what to do with spring.

How many boys today know the tart tang of the bittersweet, or the wintergreen flavor of a black birch twig; how many munched on the salivary slippery elm, or knocked off a nugget of spruce gum, sucked it soft and chewed it pink? And what boy today knows the joy of swinging on a birch over an icy torrent?

Some boys still play marbles; a few go fishing. But somewhere along the years they have lost the "feel" of spring. They aren't equipped for it. How many boys today have a jackknife—for cutting an alder pole, making a sling shot or a kite, whittling a shingle boat, but especially, and importantly, fashioning a willow whistle?

That was the supreme accomplishment. First you'd cut a willow twig, about six inches long, tap it gently all around with the knife till the bark loosened and could be slipped off, but not till you'd notched halfway through the small end. Then, for the whistle top, you'd whittle a surface, flat between the notch and the mouthpiece. Only then would you slip the bark on, so the notches matched, and, after a slanting cut on the underside of the mouth end, you were ready to whistle—slipping the bark up and down to change pitch. A willow whistle—in truth the pipe of spring.

1968] MAY, FIFTH MONTH.

ASTRONOMICAL CALCULATIONS.

☽'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	15N.14	7	16 58	13	18 31	19	19 53	25	21 03		
2	15 32	8	17 14	14	18 45	20	20 06	26	21 14		
3	15 50	9	17 30	15	19 00	21	20 18	27	21 24		
4	16 07	10	17 46	16	19 14	22	20 30	28	21 33		
5	16 24	11	18 01	17	19 27	23	20 41	29	21 42		
6	16 41	12	18 16	18	19 41	24	20 52	30	21 51		

☽ First Quarter, 5th day, 12 h. 55 m., evening, E.
○ Full Moon, 12th day, 8 hr. 05 m., morning, W.
☾ Last Quarter, 19th day, 12 h. 45 m., morning, E.
● New Moon, 27th day, 2 h. 30 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☺ Rises h. m.	Key	☺ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
122	1	W.	4 39	F	6 45	L	14 06	19	1¼	1¾	6 M 40	A	11 P M 06	Q	G'M	4
123	2	Th.	4 37	E	6 46	M	14 08	19	2	2½	7 29	A	11 P M 56	Q	CNC	5
124	3	Fr.	4 36	E	6 47	M	14 11	19	2½	3¼	8 27	B	—	—	CNC	6
125	4	Sa.	4 35	E	6 48	M	14 13	19	3½	4	9 32	B	12 A M 38	P	LEO	7
126	5	F	4 33	E	6 49	M	14 16	19	4¼	5	10 40	D	1 12	O	LEO	8
127	6	M.	4 32	E	6 50	M	14 18	19	5¼	6	11 A M 50	E	1 41	M	VIR	9
128	7	Tu.	4 31	E	6 51	M	14 20	19	6¼	6¾	1 P M 03	G	2 06	L	VIR	10
129	8	W.	4 30	E	6 52	M	14 23	19	7¼	7¾	2 17	H	2 28	J	LIB	11
130	9	Th.	4 29	E	6 53	M	14 25	19	8	8½	3 33	J	2 50	I	LIB	12
131	10	Fr.	4 27	E	6 54	M	14 27	19	9	9¼	4 52	L	3 12	G	SCO	13
132	11	Sa.	4 26	E	6 55	M	14 29	19	10	10¼	6 15	M	3 38	F	SCO	15
133	12	F	4 25	E	6 57	M	14 31	19	10¾	11	7 39	N	4 09	D	—	—
134	13	M.	4 24	E	6 58	M	14 34	19	11½	—	9 02	P	4 49	C	SGR	16
135	14	Tu.	4 23	E	6 59	M	14 36	19	0	0½	10 16	Q	5 38	B	SGR	17
136	15	W.	4 22	E	7 00	N	14 38	19	0¾	1½	11 P M 17	P	6 40	A	CAP	18
137	16	Th.	4 21	D	7 01	N	14 40	19	1½	2½	—	—	7 52	B	CAP	19
138	17	Fr.	4 20	D	7 02	N	14 42	19	2½	3½	12 A M 03	O	9 08	C	AQR	20
139	18	Sa.	4 19	D	7 03	N	14 44	19	3½	4½	12 38	N	10 22	E	AQR	21
140	19	F	4 18	D	7 04	N	14 46	19	4¾	5½	1 05	M	11 A M 33	F	PSC	22
141	20	M.	4 17	D	7 05	N	14 47	19	5¾	6½	1 27	K	12 P M 40	G	PSC	23
142	21	Tu.	4 16	D	7 06	N	14 49	19	6¾	7½	1 47	J	1 44	I	PSC	24
143	22	W.	4 16	D	7 07	N	14 51	19	7¾	8¼	2 05	I	2 47	J	ARI	25
144	23	Th.	4 15	D	7 07	N	14 53	19	8¾	9	2 23	G	3 50	K	ARI	26
145	24	Fr.	4 14	D	7 08	N	14 54	19	9½	9½	2 41	F	4 53	M	TAU	27
146	25	Sa.	4 13	D	7 09	N	14 56	19	10	10¼	3 03	E	5 56	N	TAU	28
147	26	F	4 13	D	7 10	N	14 58	19	10¾	10¾	3 29	D	7 00	O	TAU	29
148	27	M.	4 12	D	7 11	N	14 59	19	11½	11½	4 01	B	8 03	P	G'M	0
149	28	Tu.	4 11	D	7 12	N	15 01	19	—	0	4 39	B	9 01	Q	G'M	1
150	29	W.	4 11	D	7 13	N	15 02	18	0	0¾	5 25	A	9 53	Q	CNC	2
151	30	Th.	4 10	D	7 14	N	15 03	18	0¾	1½	6 20	A	10 37	P	CNC	4
152	31	Fr.	4 10	D	7 14	N	15 05	18	1½	2	7 A M 23	B	11 P M 13	O	LE	5

MAY hath 31 days. [1968

Get up, sweet slug-a-bed, and see
The dew bespangling herb and tree;
Each flower has wept, and bowed toward the East
Above an hour since, yet you not dressed.
Robert Herrick

D. M.	D. W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓	Farmer's Calendar.
1	W.	**Philip & James** Law Day Tides {9.4 8.3}	*May*	Of all things created by man, the garden wall is, perhaps, the most rewarding, the most secure, a haven from the wind and the world, a gatherer and reflector of the sun's warmth, while beneath and in its shade, the custodian and storer of moisture.
2	Th.	☾ runs high • Humming Birds ret. to Conn. {9.2 8.0}	*showers*	
3	Fr.	Helena found the Cross at Jerusalem, 362 A.D. {9.0 7.8}	*bring*	
4	Sa.	Kentucky Derby • Hol. Va. Gold Cup R.I. {8.9 7.8}	*June*	
5	F	**3rd a. E.** Interna'l good news tomorrow	*flowers.*	A wall delights the eye, and to its lovers invites experiment and invention, as Jefferson's serpentine wall at Charlottesville. Clematis, ivies, morning glories, magnolias, and cherries—all vines and flowers and trees are the companions of garden walls.
6	M.	☌☿☍ • ☌☽☾ {8.8 8.3}	*Whatsay,*	
7	Tu.	2/3 U.S. tornadoes occur this month Tides {9.0 8.3}	*Mabel,*	
8	W.	Mars conceived ☌☉☾ Tides {9.2 9.5}	*shall we*	
9	Th.	Year's highest P.M. High Tides May 12, Jun. 10, 11, Nov. 22	*air out*	
10	Fr.	*Stuff a cold, starve a fever* Hol. *Is the way it goes, remember* N.S.C.	*the*	To the farmer a wall is a very different matter, built when he cleared his pasture to enclose and protect it. But his wall has a will of its own. It is the catcher of every windblown seed, and grows the thickest, quickest, and most polyglot brush on the farm. It grows everything—which is a marvel, though not to the farmer. To him brush is simply a pasture robber. This brush becomes a refuge, a home, a natural feeding shelter for birds and animals—the woodchuck, the rabbit, the skunk, the night-prowling fox.
11	Sa.	[12 th ☾ in Perl. • ☌♆☾] {10.1 11.4}	*stable?*	
12	F	**4th a. E.** Mother's Day • The Flower Full Moon		
13	M.	The Three (12–14) Chilly Saints {10.2 —}	*Lightning*	
14	Tu.	Year's highest A.M. High Tide {11.8 10.0}	*bolts frighten*	
15	W.	☾ Rides low ☍♆☉ Tides {11.6 9.7}	*young*	
16	Th.	Longest Twilights (May 26 to Jy. 23) {11.1 9.3}	*colts.*	
17	Fr.	Boston Dirt Carts must have Tailboards—1809 • {10.6 9.0}	*Spring*	
18	Sa.	Armed Forces • Don't marry till after June 9	*fever's the*	
19	F	**Rog. S.** Dark Day 1790	*complaint;*	
20	M.	Minor Rog. (20–22) Hol. N. Car.	*days should*	
21	Tu.	Ave. date fruit tree blossoms ☾ on Eq. {8.8 9.0}	*be good*	
22	W.	*Nothing is certain* *Except the unexpected* {8.7 9.2}	*but ain't.*	
23	Th.	**Asc. D.** ☌♄☾•☿ Gr. El. E.	*Glory & bees,*	
24	Fr.	*From now on O.K. to give blood from either arm*	*blossoms*	
25	Sa.	Babe Ruth's 714th & last home run–Pittsburgh–1935	*on trees.*	
26	F	**1st a. A.** ☾ in Apo. {8.5 9.7}	*What's*	
27	M.	Kit Carson Died 1868 • St. Louis torn. 1896 {8.5 9.7}	*more*	
28	Tu.	Dionne quints born 1934 near Callender, Ontario {— 8.4}	*forlorn*	
29	W.	Eng. Derby ☾ runs high • ☌☿☾ {9.6 8.3}	*than the*	
30	Th.	**Mem. Day** Hol. exc. 5 states {9.6 8.3}	*Mem. Day*	
31	Fr.	Rained 22.24" Seco Creek Basin, Texas 1935 (U.S. rec.)	*storm?*	

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	22N.08	7	22 49	13	23 15	19	23 26	25	23 23		
2	22 16	8	22 54	14	23 18	20	23 27	26	23 21		
3	22 23	9	22 59	15	23 20	21	23 27	27	23 18		
4	22 29	10	23 03	16	23 22	22	23 26	28	23 16		
5	22 37	11	23 08	17	23 24	23	23 26	29	23 12		
6	22 43	12	23 11	18	23 25	24	23 24	30	23 09		

☽ First Quarter, 3rd day, 11 h. 47 m., evening, W.
○ Full Moon, 10th day, 8 h. 05 m., morning, W.
☾ Last Quarter, 17th day, 1 h. 14 m., evening, W.
● New Moon, 25th day, 5 h. 25 m., evening, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
153	1	Sa.	4 09	D	7 15	N	15 06	18	2¼	3	8$^{A}_{M}$30	C	11$^{P}_{M}$43	N	LEO	6
154	2	F	4 09	c	7 16	o	15 07	18	3	3¾	9 39	E	—	–	LEO	7
155	3	M.	4 08	c	7 17	o	15 08	18	3¾	4½	10 49	F	12$^{A}_{M}$08	L	VIR	8
156	4	Tu.	4 08	c	7 17	o	15 09	18	4¾	5¼	11$^{A}_{M}$59	H	12 30	K	VIR	9
157	5	W.	4 08	c	7 18	o	15 10	17	5¾	6¼	1$^{P}_{M}$11	I	12 52	J	LIB	10
158	6	Th.	4 07	c	7 19	o	15 11	17	6½	7	2 26	K	1 14	H	LIB	11
159	7	Fr.	4 07	c	7 19	o	15 12	17	7½	8	3 44	L	1 36	F	SCO	12
160	8	Sa.	4 07	c	7 20	o	15 13	17	8½	9	5 07	N	2 04	E	SCO	13
161	9	F	4 06	c	7 20	o	15 14	17	9½	9¾	6 30	O	2 38	D	SGR	14
162	10	M.	4 06	c	7 21	o	15 15	16	10½	10¾	7 50	P	3 22	B	—	—
163	11	Tu.	4 06	c	7 22	o	15 15	16	11½	11½	8 59	P	4 19	A	SGR	15
164	12	W.	4 06	c	7 22	o	15 16	16	—	0¼	9 53	P	5 28	B	CAP	16
165	13	Th.	4 06	c	7 22	o	15 17	16	0½	1¼	10 34	N	6 45	C	CAP	17
166	14	Fr.	4 06	c	7 23	o	15 17	16	1½	2	11 05	M	8 02	D	AQR	18
167	15	Sa.	4 06	c	7 23	o	15 17	15	2¼	3	11 29	L	9 17	E	AQR	19
168	16	F	4 06	c	7 24	o	15 18	15	3¼	4	11$^{P}_{M}$50	J	10 28	G	PSC	20
169	17	M.	4 06	c	7 24	o	15 18	15	4¼	5	—	–	11$^{A}_{M}$35	H	PSC	21
170	18	Tu.	4 06	c	7 24	o	15 18	15	5¼	5¾	12$^{A}_{N}$09	I	12$^{P}_{M}$38	J	ARI	22
171	19	W.	4 06	c	7 25	o	15 18	15	6¼	6¾	12 28	H	1 41	K	ARI	23
172	20	Th.	4 06	c	7 25	o	15 18	14	7	7½	12 47	G	2 44	L	TAU	24
173	21	Fr.	4 07	c	7 25	o	15 18	14	8	8¼	1 08	E	3 48	M	TAU	25
174	22	Sa.	4 07	c	7 25	o	15 18	14	9	9	1 32	D	4 52	O	TAU	26
175	23	F	4 07	c	7 25	o	15 18	14	9½	9¾	2 02	C	5 55	P	G'M	27
176	24	M.	4 07	c	7 26	o	15 18	13	10¼	10½	2 38	B	6 55	Q	G'M	28
177	25	Tu.	4 08	c	7 26	o	15 18	13	11	11	3 22	A	7 50	Q	CNC	29
178	26	W.	4 08	c	7 26	o	15 18	13	11¾	11¾	4 15	A	8 36	P	CNC	0
179	27	Th.	4 08	c	7 26	o	15 17	13	—	0¼	5 16	B	9 15	O	CNC	1
180	28	Fr.	4 09	c	7 26	o	15 17	13	0½	1	6 23	C	9 47	N	LEO	2
181	29	Sa.	4 09	c	7 26	o	15 16	12	1	1¾	7 31	D	10 13	M	LEO	3
182	30	F	4 10	c	7 26	o	15 16	12	1¾	2½	8$^{A}_{M}$40	F	10$^{P}_{M}$35	K	VIR	4

JUNE hath 30 days. [1968

And what is so rare as a day in June?
Then, if ever, come perfect days;
Then Heaven tries the earth if it be in tune
And over it softly her warm ear lays.
James Russell Lowell

D. M.	D. W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓	Farmer's Calendar.
1	Sa.	Nicom. [2nd ♁ Stat. in R.A. • ☌♃☾]	*This*	I am writing to you this morning from my park bench —mine simply by the coincidence of its being where it was when I happened to be there. That is the way one finds his park bench. Along the angles and aisles and crossings of the walks, to the pond, to the hill—everywhere —is a world of benches and their occupants—friends to whom I have never been introduced—anonymous as the benches themselves.
2	F	Whit. • Pent. Feast of Weeks	*drizzle*	
3	M.	Jefferson Davis Day • Hol. Nine So. States {9.2 8.6	*feeds*	
4	Tu.	☌ ♁ ☾ Roquefort cheese discovered 1010 {9.1 9.0	*the tiny*	
5	W.	☿ Stat. in R. A. • ☾ Eq. on Embers (5-7-8) {9.1 9.5	*seeds.*	
6	Th.	Invasion D Day ☾ Stat. in R.A. {9.2 10.0	*Behold,*	
7	Fr.	*He that is born to be hanged 'll never drown* {9.8 10.6	*Richard*	
8	Sa.	Earliest Sunrises (9–20) Tides {9.5 11.1	*Stover,*	
9	F	Crix. S. ☌♆☾ • ☾ in Peri.	*violets*	
10	M.	The Full Hot Moon Marry now till Dec. 1 {9.7 11.7	*and*	
11	Tu.	Year's highest P.M. High Tides May 12, Jun. 10, 11, Nov. 22 ☾ runs high		
12	W.	Mt. Laurel in Bloom • Am. Army left Mexico, 1848 {— 9.7	*clover.*	
13	Th.	Corpus Christi • Harvard Commence.	*Just when*	
14	Fr.	Flag Day Heppner Dis. 1903 Tides {11.1 9.4	*it's nice*	
15	Sa.	*All covet, all lose* Hol. Ida. {10.5 9.2	*along comes*	
16	F	2nd a P. Father's Day {10.0 9.1	*a gusty*	
17	M.	Bunker Hill Day Hol. Suff. Co. Mass. {9.4 9.0	*surprise.*	
18	Tu.	☌☿☉ Inf. ☾ on Eq. {8.8 9.0	*Mini-skirts*	
19	W.	Longest Days (16–26) ☌♄☾	*or not,*	
20	Th.	☌♀☉ Sup. Hol. W. Va. Tides {8.2 9.1	*these*	
21	Fr.	Summer Begins 3.13 A.M. ☌♂☉	*days*	
22	Sa.	Organic Act Virgin Isl. ☾ in Apo. {8.0 9.3	*are hot.*	
23	F	2nd a. ☾ Latest Sunsets 23–July 9	*Midwest*	
24	M.	John the Baptist B. • Bowdoin Chart. 1794 {8.1 9.6	*unrest.*	
25	Tu.	Custer slain 1876 • ☾ rides low	*Zeke's done*	
26	W.	8-hr. Day Beg. 1868 • Venus Eve. Star—Dec. 31	*mowing;*	
27	Th.	Delmarva Fest. (27–29) H. Keller B. 1880 {— 8.4	*trees have*	
28	Fr.	*Wear your best suit every day You'll have no good one Sunday*	*stopped*	
29	Sa.	St. Peter & St. Paul Tides {9.8 8.6	*grow-*	
30	F	4th a. P. ☿ Stat. in R.A. • ☌♃☾	*ing.*	

Babies conceived in June outlive October ones by 456 moons.

I do not know the ultimate end of park benches. I should like to think they never grow old or wear out. Why should they? Of all the sturdy and simple contrivances of man, they are the least disturbed. They have not been shaken, wrenched and thrown about like a freight car—or a man. They have known only the wear of time and that gentlest of frictions, the human posterior.

Where else in all the world is there a seat, a chair, a throne that is not a thing of purpose or obligation? The doctor's, the petitioner's, the monarch's—not these surely, nor my own chair which seats me to the business of my desk. To my park bench I owe nothing, but from it I accept that rarest of gifts—the luxury of independence.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

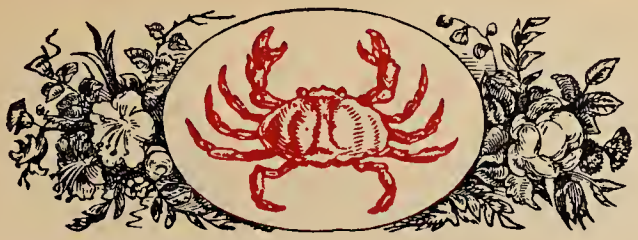
Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	23N.05	7	22 32	13	21 45	19	20 45	25	19 33		
2	23 00	8	22 25	14	21 36	20	20 34	26	19 19		
3	22 55	9	22 18	15	21 27	21	20 22	27	19 05		
4	22 50	10	22 10	16	21 17	22	20 10	28	18 52		
5	22 44	11	22 02	17	21 07	23	19 58	29	18 38		
6	22 38	12	21 54	18	20 56	24	19 46	30	18 23		

☽ First Quarter, 3rd day, 7 h. 42 m., morning, E.
○ Full Moon, 9th day, 10 h. 18 m., evening, E.
☾ Last Quarter, 17th day, 4 h. 12 m., morning, E.
● New Moon, 25th day, 6 h. 50 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS—PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
183	1	M.	4 10	C	7 25	O	15 15	12	2½	3	9$^{A}_{M}$49	G	10$^{P}_{M}$56	J	VIR	5
184	2	Tu.	4 11	C	7 25	O	15 14	12	3½	4	10$^{A}_{M}$59	I	11 17	H	LIB	6
185	3	W.	4 11	C	7 25	O	15 14	12	4¼	4¾	12$^{P}_{M}$11	J	11$^{P}_{M}$39	G	LIB	7
186	4	Th.	4 12	C	7 25	O	15 13	11	5¼	5¾	1 26	L	—	—	SCO	8
187	5	Fr.	4 13	C	7 25	O	15 12	11	6¼	6½	2 44	M	12$^{A}_{M}$03	F	SCO	9
188	6	Sa.	4 13	C	7 24	O	15 11	11	7¼	7½	4 04	O	12 33	D	SGR	10
189	7	F	4 14	C	7 24	O	15 10	11	8¼	8½	5 25	P	1 12	C	SGR	11
190	8	M.	4 15	C	7 23	O	15 09	11	9¼	9½	6 38	Q	2 01	B	CAP	12
191	9	Tu.	4 15	C	7 23	O	15 08	11	10¼	10½	7 39	P	3 04	A	CAP	13
192	10	W.	4 16	D	7 23	N	15 07	10	11	11¼	8 26	O	4 18	B	—	—
193	11	Th.	4 17	D	7 22	N	15 05	10	—	0	9 02	N	5 37	C	AQR	14
194	12	Fr.	4 18	D	7 22	N	15 04	10	0¼	1	9 30	L	6 54	E	AQR	15
195	13	Sa.	4 18	D	7 21	N	15 03	10	1	1¾	9 53	K	8 09	F	PSC	16
196	14	F	4 19	D	7 20	N	15 01	10	2	2½	10 13	J	9 19	H	PSC	17
197	15	M.	4 20	D	7 20	N	15 00	10	2¾	3½	10 32	H	10 26	I	ARI	18
198	16	Tu.	4 21	D	7 19	N	14 58	10	3¾	4¼	10 51	G	11$^{A}_{M}$30	J	ARI	19
199	17	W.	4 22	D	7 18	N	14 57	10	4½	5	11 12	F	12$^{P}_{M}$34	L	ARI	21
200	18	Th.	4 23	D	7 18	N	14 55	10	5½	6	11$^{P}_{M}$34	D	1 38	M	TAU	22
201	19	Fr.	4 23	D	7 17	N	14 53	10	6½	6¾	—	—	2 42	N	TAU	23
202	20	Sa.	4 24	D	7 16	N	14 52	10	7¼	7½	12$^{A}_{M}$02	C	3 45	P	G'M	24
203	21	F	4 25	D	7 15	N	14 50	9	8¼	8½	12 35	B	4 47	P	G'M	25
204	22	M.	4 26	D	7 14	N	14 48	9	9	9¼	1 17	A	5 43	Q	G'M	26
205	23	Tu.	4 27	D	7 13	N	14 46	9	9¾	10	2 07	A	6 33	Q	CNC	27
206	24	W.	4 28	D	7 13	N	14 44	9	10½	10½	3 06	B	7 14	P	CNC	28
207	25	Th.	4 29	D	7 12	N	14 43	9	11¼	11¼	4 13	C	7 48	O	LEO	29
208	26	Fr.	4 30	D	7 11	N	14 41	9	—	0	5 21	D	8 16	M	LEO	0
209	27	Sa.	4 31	E	7 10	M	14 39	9	0	0½	6 31	F	8 40	L	VIR	1
210	28	F	4 32	E	7 09	M	14 37	9	0¾	1¼	7 41	G	9 01	J	VIR	2
211	29	M.	4 33	E	7 08	M	14 34	9	1½	2	8 52	H	9 22	I	VIR	3
212	30	Tu.	4 34	E	7 06	M	14 32	9	2¼	2¾	10 02	J	9 44	G	LIB	4
213	31	W.	4 35	E	7 05	M	14 30	9	3	3½	11$^{A}_{M}$15	K	10$^{P}_{M}$06	F	LIB	5

JULY hath 31 days. [1968



I remember, I remember
How my childhood fleeted by, —
The mirth of its December
And the warmth of its July.
W. M. Praed

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓	Farmer's Calendar.
1	M.	Dominion Day *Unlucky everywhere* {9.6 9.0	*Again*	A farm boy spent far less time with other boys than with farm animals. Within the perimeter of the farm were wild things, too—the occasional deer, the rabbit, the raccoon and fox, the skunk, the porcupine, and the woodchuck. But it was for the woodchuck, bold and most familiar, the boy had a special eye.
2	Tu.	☌☉☾ • ☾ on Eq. Earth from sun farthest {9.4 9.3	*hot,*	
3	W.	*Butter gets mad now And in December's snow* {9.2 9.6	*winter's*	
4	Th.	**Independence Day** Tides {9.1 9.9	*forgot.*	
5	Fr.	Salvation Army Fd. by Wm. Booth 1865 Tides {8.9 10.8	*Quiet,*	
6	Sa.	☌♆☾ Cap'n Kidd deported 1699 {8.9 10.6	*then*	
7	F	**4th a. ☾.** 10.14" Rain N.Y.C. 1935 {9.0 10.9	*tropo-*	A woodchuck, by man's decree, had no right on a farm. He was a varmint and a thief. Yet the boy never really reckoned him so, unconsciously accepting the woodchuck's logic. He was there, fat and sassy, because clover was what he loved, and the farmer couldn't keep him out of it. The boy and the woodchuck were not enemies. The boy knew that one day his father would give him a gun, and he would hunt the woodchuck.
8	M.	☾ in Peri. • ☾ rides low Tides {9.1 11.2	*spheric*	
9	Tu.	The Full Buck Moon • 16" Rain Kansas 1951 {9.8 11.4	*riot.*	
10	W.	134 deg. Death Valley 1913 Columbus Born 1447 {9.5 11.4	*Come*	
11	Th.	☿ Gr. El. W. • U.S. Marines cr. 1798 {— 9.6	*Rover,*	
12	Fr.	*If daylight comes thru clouds*	*come*	
13	Sa.	*Gusty winds'll make their rounds* Brigham Young had 15 wives 1859 • Hol. Tenn.	*hither,*	
14	F	**6th a. ☽.** Bastille Day Fast of Tammuz	*baby's*	
15	M.	St. Swithin ☾ on Eq. {9.8 9.8	*been blown*	The boy had long thoughts on this, and a curiosity about the woodchuck. He knew there were three outlets to his long burrow—the front door with its pile of earth, a second, quite close by, and more or less hidden, but most important, the third outlet, "the hole." The hole was an unproclaimed, clean-lipped vertical drop two or three feet straight down, into which the woodchuck could disappear like magic.
16	Tu.	Jack the Ripper slew 8th victim 1889 {9.2 9.1	*into the*	
17	W.	☌♄☾ Avoid arguments Tides {8.6 9.0	*river.*	
18	Th.	*If ant hills are high* {8.1	*Men*	
19	Fr.	*Winter won't be open or dry* Women (In bloomers) decl. Indepen. 1848—See Pg. 70 {8.9 7.8 8.8	*sweat,*	
20	Sa.	☾ in Apo. W.W. 1 Draft beg. 1917 Tides {7.7 8.9	*gals*	
21	F	**6th a. ☾.** Tides {7.7 9.0	*perspire,*	But the boy knew another curious thing about the woodchucks. One June day in the pasture he heard a kind of "singing" in the burrow beneath him—the mother and the little ones making a musical chatter together. The boy never forgot it.
22	M.	**M. Magdalene** ☾ runs high Tides {7.8 9.3	*in all*	
23	Tu.	*Gather your Medicinal herbs* ☌☿☾ {8.0 9.5	*this fire.*	
24	W.	Pony Penning (25th) Assateague, Va. Hol. Utah	*Yup, a*	
25	Th.	**St. James** Dog Days (25th–Sept. 5) {8.4 10.0	*storm's*	
26	Fr.	Men wore long stockings with knee tassels 1851 {— 8.7	*in*	
27	Sa.	☌♃☾ 1a. Hopper Plague 1931 {10.1 9.0	*sight,*	
28	F	**8th a. ☽.** ☌☿♂ {10.2 9.3	*all right.*	
29	M.	☌☉☾ • ☾ on Eq. Tides {10.1 9.5	*All bright,*	
30	Tu.	Wm. Penn D. 1718 • Emily Bronte Born 1818 {9.9 9.8	*all*	
31	W.	*As the days shorten The heat'll scorch 'em* Tides {9.6 9.9	*night.*	

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	17N.53	7	16 17	13	14 30	19	12 36	25	10 35
2	17 38	8	16 00	14	14 12	20	12 16	26	10 14
3	17 22	9	15 42	15	13 53	21	11 56	27	9 53
4	17 06	10	15 25	16	13 34	22	11 36	28	9 31
5	16 50	11	15 07	17	13 15	23	11 16	29	9 10
6	16 33	12	14 49	18	12 56	24	10 55	30	8 49

☽ First Quarter, 1st day, 1 h. 35 m., evening, E.
○ Full Moon, 8th day, 6 h. 33 m., morning, W.
☾ Last Quarter, 15th day, 9 h. 14 m., evening, E.
● New Moon, 23rd day, 6 h. 57 m., evening, W.
☽ First Quarter, 30th day, 6 h. 35 m., evening, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
214	1	Th.	4 36	E	7 04	M	14 28	10	4	4¼	12PM31	M	10PM34	E	SCO	6
215	2	Fr.	4 37	E	7 03	M	14 26	10	4¾	5¼	1 49	N	11 07	C	SCO	7
216	3	Sa.	4 38	E	7 02	M	14 24	10	5¾	6¼	3 07	P	11PM51	B	SGR	9
217	4	F	4 39	E	7 01	M	14 21	10	7	7¼	4 21	P	—	—	SGR	10
218	5	M.	4 40	E	6 59	M	14 19	10	8	8¼	5 26	Q	12AM47	A	CAP	11
219	6	Tu.	4 41	E	6 58	M	14 17	10	9	9¼	6 18	P	1 55	B	CAP	12
220	7	W.	4 42	E	6 57	M	14 14	10	10	10¼	6 58	N	3 11	C	AQR	13
221	8	Th.	4 43	E	6 55	M	14 12	10	11	11	7 28	M	4 29	D	—	—
222	9	Fr.	4 44	E	6 54	M	14 10	10	11¾	—	7 54	L	5 46	F	AQR	14
223	10	Sa.	4 45	E	6 53	L	14 07	10	0	0½	8 15	J	6 59	G	PSC	15
224	11	F	4 47	F	6 51	L	14 05	11	0¾	1¼	8 35	I	8 08	H	PSC	16
225	12	M.	4 48	F	6 50	L	14 02	11	1½	2	8 53	G	9 14	J	ARI	17
226	13	Tu.	4 49	F	6 49	L	14 00	11	2¼	2¾	9 13	F	10 20	K	ARI	18
227	14	W.	4 50	F	6 47	L	13 57	11	3	3½	9 35	E	11AM25	M	TAU	19
228	15	Th.	4 51	F	6 46	L	13 55	11	4	4¼	10 01	D	12PM29	N	TAU	20
229	16	Fr.	4 52	F	6 44	L	13 52	12	4¾	5	10 33	B	1 34	O	TAU	21
230	17	Sa.	4 53	F	6 43	L	13 50	12	5¾	6	11 11	A	2 36	P	G'M	22
231	18	F	4 54	F	6 41	L	13 47	12	6½	7	11PM58	A	3 35	Q	G'M	23
232	19	M.	4 55	F	6 40	L	13 45	12	7½	7¾	—	—	4 27	Q	CNC	24
233	20	Tu.	4 56	F	6 38	L	13 42	12	8½	8¾	12AM54	A	5 12	P	CNC	25
234	21	W.	4 57	F	6 37	L	13 39	13	9¼	9½	1 58	B	5 48	O	LEO	26
235	22	Th.	4 58	F	6 35	L	13 37	13	10	10¼	3 06	C	6 18	N	LEO	27
236	23	Fr.	4 59	G	6 33	K	13 34	13	10¾	11	4 16	E	6 44	L	LEO	28
237	24	Sa.	5 00	G	6 32	K	13 31	13	11½	11½	5 28	F	7 06	K	VIR	1
238	25	F	5 01	G	6 30	K	13 29	14	—	0	6 40	H	7 27	I	VIR	2
239	26	M.	5 03	G	6 29	K	13 26	14	0¼	0¾	7 52	I	7 49	H	LIB	3
240	27	Tu.	5 04	G	6 27	K	13 23	14	1	1½	9 05	K	8 11	F	LIB	4
241	28	W.	5 05	G	6 25	K	13 21	15	1¾	2¼	10 21	L	8 36	E	SCO	5
242	29	Th.	5 06	G	6 24	K	13 18	15	2½	3	11AM39	N	9 08	D	SCO	6
243	30	Fr.	5 07	G	6 22	K	13 15	15	3½	4	12PM56	O	9 48	B	SGR	7
244	31	Sa.	5 08	G	6 20	K	13 12	16	4½	5	2PM12	P	10PM38	A	SGR	8

AUGUST hath 31 days. [1968

Songs, Spring thought perfection,
Summer criticises;
What in May escaped detection,
August, past surprises,
Notes, and names each blunder.
Robert Browning

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	*Weather* ↓
1	Th.	Lammas D. Hol. Col. Tides {9.3 10.0	*Don't*
2	Fr.	Unlucky Aug. 1–16 ☌♆☾ {8.9 10.1	*vacation;*
3	Sa.	*After Lammas corn ripens As much by night as by day* {8.6 10.2	*too*
4	F	8th a.☾. Fast of Av. ☾in Peri. {8.5 10.8	*much*
5	M.	☾rides low • ♆Stat. in R.A. {8.6 10.5	*precip-*
6	Tu.	Transfiguration Tides {8.8 10.8	*itation.*
7	W.	Name of Jesus ☌☿☉Sup. • ♄Stat. in R.A. {9.1 11.0	
8	Th.	The Sturgeon Full Moon {9.4 11.0	*Sweater weather,*
9	Fr.	Isaak Walton B. 1593 (See Pg. 68) Tides {9.7 —	*wind*
10	Sa.	St. Lawrence Shooting Stars (9–14)	*and rain*
11	F	10th a.♇. ☾on Eq. {10.5 9.8	*together.*
12	M.	Hay Fever begins *Now it's a Gibbous moon* Hol. R.I.	*A cool*
13	Tu.	Manila 1898 ☌♄☾ Tides {9.5 9.5	*drule*
14	W.	V.J. Day 1st Printed Book 1457 Hol. Ark. {8.9 9.2	*turns*
15	Th.	Assumption Virgin Mary • Shrimp Fleet Blessing, La.	*Trixie's*
16	Fr.	Battle of Bennington, Vt. ☾in ☍Apo. {7.9 8.7	*hair*
17	Sa.	*Depressed, restless, lazy? Old Sol hath drove you crazy*	*to wool.*
18	F	10th a.☾. ☌☿☄ {7.4 8.6	*Sky's blue,*
19	M.	☾runs high Ft. Laramie Massacre 1854 {7.5 8.8	*'tis true.*
20	Tu.	Today parallel w. Apr. 23 Tides {7.7 9.1	*Line storm*
21	W.	Destroy bushes and sprouts ☌☿☄ {8.0 9.5	*from*
22	Th.	☌☌☾ X15 rec. alt. 67 mi. 1963 Tides {8.4 9.9	*the*
23	Fr.	*Of bad news the bees inform Else they'll die or come to harm*	*ocean*
24	Sa.	[25th ☌☿☾•☌☿☾] Tides {9.3 10.4	*sets*
25	F	12th a.♇. ☌☉☾ Tides {— 9.8	*the*
26	M.	☾on Eq. • Gt. Colonial hurr. 1635 {10.4 10.1	*continent*
27	Tu.	Confucius B. 550 B.C. • L. B. J. B. 1908 Tides {10.3 10.4	*in*
28	W.	1st U.S. Locomotive Trial Run 1831 {10.1 10.5	*motion.*
29	Th.	John Bapt. beheaded ☌♆☾ Tides {9.6 10.4	*Clear,*
30	Fr.	Cleopatra suicide B.C. 30 ☾in Peri. Hol, La.	*dear.*
31	Sa.	☌☿☉ • ☌☿☉ • ☌☿☿ Tides {8.7 10.0	

Farmer's Calendar.

Water is the first necessity of life. Rainfall, or snow, is the primary source of all water. Top soils, grasses, shrubs, trees, and their root systems, absorb most of the rainfall. What is left over, if any, is added to the waters under the earth—the water table. Depending upon the amounts of precipitation over the years—decades and centuries—the water table rises or falls—with infinite slowness.

It is a common misconception that once we have had a period of uncommonly heavy rains, and our reservoirs are filled, then all is well. This is far from the truth. For a reservoir is simply a receptacle that we can fill or empty, as a pail or a tub. Only when the total deficiency of precipitation over the preceding period of dry years has been made up, in full and with interest, is the water table returned to its original level.

The farmer's old deep well is a fairly accurate indication of his region's water level. So, too, his springs, the forest streams, the bogs, and swamps. But he will tell you that since his grandfather's day most springs and many wells have gone dry. His grandfather, of course, used but one gallon of water to the hundred—or hundreds—we use today. In most sections of our country the water table is lower than it ever has been. We are in debt, spending beyond our means, and returning nothing to an overdrawn account.

1968] SEPTEMBER, NINTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	8N.06	7	5 52	13	3 36	19	1 17	25	1 03
2	7 44	8	5 30	14	3 13	20	0 53	26	1 27
3	7 22	9	5 07	15	2 50	21	0 30	27	1 50
4	7 00	10	4 44	16	2 27	22	0N.07	28	2 14
5	6 37	11	4 22	17	2 03	23	0s. 17	29	2 37
6	6 15	12	3 59	18	1 40	24	0 40	30	3 00

○ Full Moon, 6th day, 5 h. 08 m., evening, E.
☾ Last Quarter, 14th day, 3 h. 32 m., evening, W.
● New Moon, 22nd day, 6 h. 09 m., morning, E.
☽ First Quarter, 29th day, 12 h. 07 m., morning, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
245	1	F	5 09	G	6 18	K	13 09	16	5½	6	3PM18	P	11PM41	A	CAP	9
246	2	M.	5 10	G	6 17	K	13 07	16	6¾	7	4 13	P	—	—	CAP	10
247	3	Tu.	5 11	G	6 15	K	13 04	17	8	8¼	4 56	O	12AM53	B	AQR	11
248	4	W.	5 12	G	6 13	J	13 01	17	9	9¼	5 29	N	2 09	D	AQR	12
249	5	Th.	5 13	H	6 12	J	12 58	17	9¾	10	5 56	L	3 26	E	PSC	13
250	6	Fr.	5 14	H	6 10	J	12 56	18	10½	11	6 18	K	4 39	F	PSC	14
251	7	Sa.	5 15	H	6 08	J	12 53	18	11½	11¾	6 38	I	5 50	H	—	—
252	8	F	5 16	H	6 06	J	12 50	18	—	0	6 57	H	6 57	I	ARI	15
253	9	M.	5 17	H	6 05	J	12 47	19	0½	0¾	7 16	G	8 03	K	ARI	16
254	10	Tu.	5 18	H	6 03	J	12 44	19	1	1½	7 37	E	9 09	L	ARI	17
255	11	W.	5 19	H	6 01	J	12 42	19	1¾	2	8 01	D	10 15	M	TAU	18
256	12	Th.	5 21	H	5 59	J	12 39	20	2½	2¾	8 31	C	11AM20	O	TAU	19
257	13	Fr.	5 22	H	5 58	J	12 36	20	3¼	3½	9 05	B	12PM23	P	G'M	20
258	14	Sa.	5 23	H	5 56	J	12 33	20	4	4½	9 48	A	1 24	Q	G'M	21
259	15	F	5 24	H	5 54	J	12 30	21	5	5¼	10 41	A	2 19	Q	G'M	22
260	16	M.	5 25	H	5 52	I	12 28	21	6	6¼	11PM40	B	3 06	Q	CNC	23
261	17	Tu.	5 26	I	5 51	I	12 25	21	7	7¼	—	—	3 46	P	CNC	25
262	18	W.	5 27	I	5 49	I	12 22	22	8	8	12AM47	C	4 19	N	LEO	26
263	19	Th.	5 28	I	5 47	I	12 19	22	8¾	9	1 56	D	4 45	M	LEO	27
264	20	Fr.	5 29	I	5 45	I	12 16	22	9½	9¾	3 08	F	5 09	K	VIR	28
265	21	Sa.	5 30	I	5 43	I	12 13	23	10	10½	4 21	G	5 30	J	VIR	29
266	22	F	5 31	I	5 42	I	12 11	23	10¾	11	5 34	I	5 52	I	LIB	0
267	23	M.	5 32	I	5 40	I	12 08	24	11½	—	6 48	J	6 14	G	LIB	1
268	24	Tu.	5 33	I	5 38	I	12 05	24	0	0¼	8 05	L	6 39	F	SCO	2
269	25	W.	5 34	I	5 36	I	12 02	24	0½	1	9 24	M	7 08	D	SCO	3
270	26	Th.	5 36	I	5 35	I	11 59	25	1½	1¾	10AM45	O	7 46	C	SGR	4
271	27	Fr.	5 37	I	5 33	I	11 56	25	2¼	2½	12PM02	P	8 34	B	SGR	5
272	28	Sa.	5 38	J	5 31	H	11 53	25	3¼	3½	1 12	Q	9 33	A	CAP	6
273	29	F	5 39	J	5 29	H	11 51	26	4¼	4¾	2 11	P	10 42	B	CAP	8
274	30	M.	5 40	J	5 28	H	11 48	26	5½	5¾	2PM57	O	11PM57	C	AQR	9

SEPTEMBER hath 30 days. [1968

The maples bending o'er the gate,
Their arch of leaves just tinted
With yellow warmth, the golden glow
Of coming autumn hinted.
John G. Whittier

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓	Farmer's Calendar.
1	F	12th a.☾. ☾rides low {8.4 9.9	*Fine*	In the forests of northern Massachusetts and southern New Hampshire there is as wide a variety of mixed soft- and hardwoods as anywhere in the United States.
2	M.	Labor Day New style Cal. 1752 {8.8 10.0	*Labor*	
3	Tu.	Hay Fever high count • 3rd became the 14th {8.5 10.1	*Day;*	
4	W.	Moses Patriarch • Cranberry Harvest {8.8 10.3	*the rest's*	
5	Th.	Fishes spawn Dog Days end Tides {9.2 10.5	*not*	To the lumberman, the great hardwoods notwithstanding, the pine is king. But to many of us the hemlock is an equal sovereign.
6	Fr.	The Full Corn Moon Cat nites commence Tides {9.6 10.5	*gay.*	
7	Sa.	[8th ♂☌☉ • ☾on Eq.] {9.9 10.4	*Here's*	
8	F	14th a.♇. Nativity of Mary Tides {— 10.0	*our*	One has only to walk through a pine stand and a hemlock grove to understand the complete dissimilarity between these trees. Beneath the pines little grows, for though it is the prime seeder of old pastures, a pine stand will not regenerate itself. Though pleasant enough to the foot, the pine diff is dry as well as sterile. The forest ceiling keeps not only the sun out, but nothing else in. There is a barrenness to the grey aisles. The air has little pulse, no flow, no sound. There are no wings, no song.
9	M.	Shortest Twilights (Sept. 6 to Apr. 11) Hol. Cal.	*best*	
10	Tu.	N.H. Pres. Primaries ♂♄☾ Tides {9.7 9.8	*guess:*	
11	W.	Hesiod's Lucky Reaper's Day Tides {9.2 9.5	*ten won-*	
12	Th.	*Don't carry water in one hand & fire in the other* Hol. Md.	*drous*	
13	Fr.	Tragic Sept. 1866 Newport, R.I. ☾in Apo. {8.2 8.8	*days*	
14	Sa.	Holy Cross Elliott Speer murd. 1934	*to travel,*	
15	F	14th a.☾. ♂☿☉ • ☾Runs high	*marry,*	
16	M.	Year's lowest A.M. Low Tide Hol. Okla. {7.3 8.4	*whistle,*	
17	Tu.	Trees color thru Oct. 15 • Citizenship Day {7.5 8.7	*or just*	
18	W.	The World began at the Fall Equinox, in 4004 B.C. Embers 18, 20, 21	*rest.*	
19	Th.	at 9.00 A.M. • ♂♂☾ • {8.3 9.5	*In these*	To walk in a hemlock grove is to tread a carpet cool and moist. The fallen monarch is rich with mosses. The forest floor is a nursery of young hemlocks, ground hemlock, and yew. Each parent hemlock is filled with tiny cones. The shade, not the shadow of the grove (there are no shadows) is a luminous green—especially in spring when every tree is covered with miniature yellow-green blossoms. In the hemlock tops the wind is a motion only. Below it is always hushed.
20	Fr.	☿Gr. El. E. • ♂☿♀ {8.9 9.9	*bad storms*	
21	Sa.	St. Mat. [22nd ☉Total eclipse • ♂☉☉ • ☾on Eq.]		
22	F	16th a.♇. Fall begins 6.26 P.M.	*across*	
23	M.	Jewish New Year Great Gale of 1815	*this U.S.,*	
24	Tu.	♂☿☾ • ♂♀☾ {10.5 11.0	*travelers the*	
25	W.	Fast of Gedalia ☾in Peri. 1st frost Boston	*coasts should*	
26	Th.	Day equals Night ♂♆☾ Tides {10.0 11.0	*finesse.*	
27	Fr.	American Indian D. • Plymouth Rock reloc. 1880	*Ho-hum,*	
28	Sa.	☾rides low Bat. Marathon B.C. 490 {9.1 10.3	*more*	
29	F	16th a.☾. Tides {8.6 9.5	*rain &*	Though it is long since I believed in pixies and gnomes (and I trust I did), they must surely live in a hemlock grove.
30	M.	St. Jerome Adam & Eve banished	*then some.*	

Men's dreams as well as reason
Often change with each new season

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	3s. 23	7	5 42	13	7 58	19	10 10	25	12 17
2	3 47	8	6 06	14	8 21	20	10 32	26	12 37
3	4 10	9	6 28	15	8 43	21	10 53	27	12 58
4	4 33	10	6 51	16	9 05	22	11 14	28	13 18
5	4 46	11	7 13	17	9 27	23	11 35	29	13 38
6	5 19	12	7 36	18	9 49	24	11 56	30	13 57

○ Full Moon, 6th day, 6 h. 47 m., morning, W.
☾ Last Quarter, 14th day, 10 h. 06 m., morning, W.
● New Moon, 21st day, 4 h. 45 m., evening, W.
☽ First Quarter, 28th day, 7 h. 40 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS—PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea. Boston. Morn h.	Full Sea. Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
275	1	Tu.	5 41	J	5 26	H	11 45	26	6½	7	3 P M 32	N	—	—	AQR	10
276	2	W.	5 42	J	5 24	H	11 42	27	7¾	8	4 00	M	1 A M 12	D	AQR	11
277	3	Th.	5 43	J	5 23	H	11 39	27	8¾	9	4 22	K	2 25	F	PSC	12
278	4	Fr.	5 44	J	5 21	H	11 37	27	9½	9¾	4 42	J	3 36	G	PSC	13
279	5	Sa.	5 45	J	5 19	H	11 34	27	10¼	10½	5 02	I	4 43	I	PSC	14
280	6	F	5 46	J	5 17	H	11 31	28	11	11¼	5 20	G	5 49	J	—	—
281	7	M.	5 48	J	5 16	H	11 28	28	11½	—	5 41	F	6 54	K	ARI	15
282	8	Tu.	5 49	J	5 14	H	11 25	28	0	0¼	6 03	E	8 00	M	ARI	16
283	9	W.	5 50	J	5 12	G	11 22	29	0½	0¾	6 30	C	9 06	N	TAU	17
284	10	Th.	5 51	K	5 11	G	11 20	29	1¼	1½	7 03	B	10 11	P	TAU	18
285	11	Fr.	5 52	K	5 09	G	11 17	29	2	2	7 42	A	11 A M 13	P	G'M	19
286	12	Sa.	5 53	K	5 07	G	11 14	29	2¾	3	8 30	A	12 P M 10	Q	G'M	20
287	13	F	5 54	K	5 06	G	11 11	30	3½	3¾	9 26	A	1 00	Q	G'M	21
288	14	M.	5 56	K	5 04	G	11 09	30	4½	4½	10 29	B	1 42	P	CNC	22
289	15	Tu.	5 57	K	5 03	G	11 06	30	5½	5½	11 P M 37	D	2 16	O	CNC	23
290	16	W.	5 58	K	5 01	G	11 03	30	6¼	6½	—	—	2 45	N	LEO	24
291	17	Th.	5 59	K	4 59	G	11 00	30	7¼	7½	12 A M 46	E	3 10	L	LEO	25
292	18	Fr.	6 00	K	4 58	G	10 58	31	8	8¼	1 57	G	3 32	K	VIR	26
293	19	Sa.	6 01	K	4 56	G	10 55	31	8¾	9	3 10	H	3 53	I	VIR	27
294	20	F	6 03	K	4 55	G	10 52	31	9½	10	4 23	I	4 15	H	LIB	28
295	21	M.	6 04	K	4 53	F	10 49	31	10¼	10¾	5 40	K	4 39	F	LIB	29
296	22	Tu.	6 05	L	4 52	F	10 47	31	11	11½	7 00	M	5 07	E	SCO	1
297	23	W.	6 06	L	4 50	F	10 44	31	11¾	—	8 24	N	5 42	C	SCO	2
298	24	Th.	6 07	L	4 49	F	10 41	32	0¼	0½	9 45	P	6 27	B	SGR	3
299	25	Fr.	6 09	L	4 47	F	10 39	32	1¼	1½	11 A M 01	Q	7 24	A	SGR	4
300	26	Sa.	6 10	L	4 46	F	10 36	32	2	2¼	12 P M 06	Q	8 32	B	CAP	5
301	27	F	6 11	L	4 45	F	10 34	32	3	3½	12 55	P	9 46	C	CAP	6
302	28	M.	6 12	L	4 42	F	10 30	32	4	4½	1 34	N	11 P M 03	D	AQR	7
303	29	Tu.	6 13	L	4 41	F	10 28	32	5¼	5½	2 04	M	—	—	AQR	8
304	30	W.	6 15	L	4 40	F	10 26	32	6½	6¾	2 27	L	12 A M 15	E	PSC	9
305	31	Th.	6 16	L	4 38	F	10 23	32	7½	7¾	2 P M 48	J	1 A M 27	G	PSC	10

OCTOBER hath 31 days. [1968

Bright yellow, red and orange,
The leaves come down in hosts;
The trees are Indian princes,
But soon they'll turn to ghosts.
William Allingham

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	*Weather* ↓
1	Tu.	Freeze ferns for Christmas bouquets {8.4 9.6	*Shine on,*
2	W.	Yom Kippur Spy Andre hanged 1780 {8.6 9.7	*shine on,*
3	Th.	Prune--plant forest trees ☿Stat. in R.A. {9.1 9.9	*Harvest*
4	Fr.	Francis D'Assisi Line storms Pac. Coast {9.5 9.9	*Moon —*
5	Sa.	☾on Eq. [6th—Total Eclipse Harvest Moon—P. 20]	*that's*
6	F	18th a. ♇. Tides {10.0 9.7	*the tune,*
7	M.	First Day Tabernacles Hol. ♂☌☾ Mo.	*then to*
8	Tu.	*Those who dance are thought mad By those who don't hear the music*	*rain*
9	W.	Lief Erikson Pius XII D. 1958 Tides {9.2 9.8	*you'll*
10	Th.	Pro Ball Players pd. $12 Game 1879 Hol. Okla. {8.7 9.5	*croon.*
11	Fr.	☾in Apo. Chicago Deluge 1954 Hol. Neb. {8.4 9.2	*Clears*
12	Sa.	Columbus Day • ☾runs high {8.0 8.8	*off*
13	F	18th a. ♅. Tides {7.7 8.6	*cold*
14	M.	[15th ♂☌☉ • ♂☿☉ Inf.] {7.5 8.4	*and*
15	Tu.	Oct. 5 Poetry Day in 1852 Rejoicing of the Law {7.5 8.4	*bold.*
16	W.	Gallus Day *If dry means dry spring* Tides {7.7 8.6	*Nice*
17	Th.	Lucy Stone D. 1893 (p. 70) ♂☿♆ {8.1 9.0	*again*
18	Fr.	St. Luke Ev. ♂♂☾ Hol. Alas. {8.7 9.4	*from*
19	Sa.	♂☊☾ • ♂☉☾ • ☾on Eq. {9.4 9.8	*the sea*
20	F	20th a. ♇. Tides {10.2 10.1	*to*
21	M.	Sun 32 min. faster than Dials (24–Nov. 12)	*Michigan.*
22	Tu.	Earliest rec. Eclipse 2137 B.C. Tides {11.8 10.4	*Extra*
23	W.	♂in Perl. • ♂♆☾ • ☿Stat. in R.A.	*blankets*
24	Th.	U. N. Day ♂♀☾ Tides {10.2 11.5	*now,*
25	Fr.	Charge of Light Brigade, 1854 ☾rides low {9.9 11.8	*perhaps*
26	Sa.	DAYLIGHT SAVING ENDS TOMORROW {9.5 10.8	*some*
27	F	20th a. ♅. Mission Sun. {9.0 10.8	*snow.*
28	M.	Simon & Jude Statue Liberty unveiled 1886 {8.7 9.2	*No*
29	Tu.	Sir Walter (1618) Raleigh beheaded Tides {8.5 9.4	*sun,*
30	W.	De Vaca discovered Miss. River 1528 Tides {8.6 9.8	*no*
31	Th.	Halloween ☿Gr. El. W. Hol. Nev. {8.9 9.2	*fun.*

Farmer's Calendar.

I recently listened to an economist whose subject was the industrial and population future of New England. His computer stated that at the end of the century there would be twice the present population, and this pretty much bunched in urban areas.

New England's textile centers of old hugged most of their population to them in the "mill houses." (Would that the charm of these truly Colonial houses could be recaptured in our urban center architecture rather than the clap-trap, so-called "colonials" ready-made at the factory.)

In the country towns, truly rural and agricultural, some, with half the population they had in Civil War times, have obviously quite another population story. But their last chapter is not written. I foresee that many of these towns will slowly and steadily, and then with extraordinary rapidity, increase in population.

Because most of these little towns are really not "remote" to the auto, they will be sought out and discovered by people not happy to live in an urban area, yet desirous of working in the industry around which the urban area has grown. So, in increasing numbers, people will buy and rebuild and build in these old towns—recreating country villages of their own. Such village centers will have an independence, a country atmosphere, quite different from that of the urban centers and "bedroom" towns to industries.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

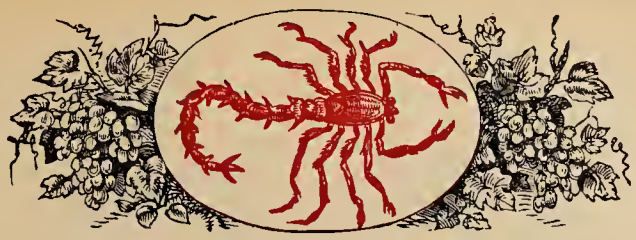
Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	14s. 36	7	16 26	13	18 07	19	19 35	25	20 51
2	14 55	8	16 44	14	18 22	20	19 49	26	21 03
3	15 14	9	17 01	15	18 37	21	20 02	27	21 14
4	15 32	10	17 18	16	18 52	22	20 15	28	21 24
5	15 51	11	17 34	17	19 07	23	20 28	29	21 34
6	16 09	12	17 51	18	19 21	24	20 40	30	21 44

○ Full Moon, 4th day, 11 h. 25 m., evening, W.
☾ Last Quarter, 13th day, 3 h. 54 m., morning, E.
● New Moon, 20th day, 3 h. 02 m., morning, E.
☽ First Quarter, 26th day, 6 h. 31 m., evening, W.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
306	1	Fr.	6 17	L	4 38	F	10 21	32	8¼	8¾	3$^{P}_{M}$07	I	2$^{A}_{M}$34	H	PSC	11
307	2	Sa.	6 19	L	4 37	F	10 18	32	9	9½	3 26	H	3 39	J	ARI	12
308	3	F	6 20	M	4 36	E	10 16	32	9¾	10¼	3 45	F	4 44	K	ARI	13
309	4	M.	6 21	M	4 34	E	10 13	32	10½	11	4 07	E	5 49	L	TAU	14
310	5	Tu.	6 22	M	4 33	E	10 11	32	11	11½	4 32	D	6 54	N	—	—
311	6	W.	6 24	M	4 32	E	10 08	32	11¾	—	5 02	B	7 59	O	TAU	15
312	7	Th.	6 25	M	4 31	E	10 06	32	0¼	0¼	5 40	B	9 03	P	TAU	16
313	8	Fr.	6 26	M	4 30	E	10 04	32	0¾	1	6 25	A	10 02	Q	G'M	17
314	9	Sa.	6 27	M	4 29	E	10 01	32	1½	1½	7 18	A	10 54	Q	G'M	18
315	10	F	6 29	M	4 28	E	9 59	32	2¼	2½	8 18	B	11$^{A}_{M}$39	P	CNC	19
316	11	M.	6 30	M	4 27	E	9 57	32	3	3¼	9 22	C	12$^{P}_{M}$16	O	CNC	20
317	12	Tu.	6 31	M	4 26	E	9 55	32	4	4	10 30	D	12 46	N	CNC	22
318	13	W.	6 32	M	4 25	E	9 52	31	4¾	5	11$^{P}_{M}$38	F	1 12	M	LEO	23
319	14	Th.	6 33	M	4 24	E	9 50	31	5½	6	—	—	1 33	K	LEO	24
320	15	Fr.	6 35	M	4 23	E	9 48	31	6½	6¾	12$^{A}_{M}$47	G	1 54	J	VIR	25
321	16	Sa.	6 36	M	4 22	E	9 46	31	7¼	7¾	1 58	I	2 15	H	VIR	26
322	17	F	6 37	N	4 21	D	9 44	31	8	8½	3 11	J	2 37	G	LIB	27
323	18	M.	6 38	N	4 20	D	9 42	31	9	9½	4 29	L	3 02	E	LIB	28
324	19	Tu.	6 40	N	4 19	D	9 40	30	9¾	10¼	5 51	N	3 34	D	SCO	29
325	20	W.	6 41	N	4 19	D	9 38	30	10½	11¼	7 15	O	4 15	C	SCO	0
326	21	Th.	6 42	N	4 18	D	9 36	30	11½	—	8 37	P	5 08	B	SGR	1
327	22	Fr.	6 43	N	4 17	D	9 34	30	0	0¼	9 49	Q	6 14	A	SGR	2
328	23	Sa.	6 44	N	4 17	D	9 32	29	1	1	10 48	P	7 30	B	CAP	3
329	24	F	6 46	N	4 16	D	9 31	29	2	2	11$^{A}_{M}$32	O	8 48	D	CAP	5
330	25	M.	6 47	N	4 16	D	9 29	29	2¾	3	12$^{P}_{M}$06	N	10 05	E	AQR	6
331	26	Tu.	6 48	N	4 15	D	9 27	28	4	4	12 33	L	11$^{P}_{M}$18	F	AQR	7
332	27	W.	6 49	N	4 15	D	9 26	28	5	5¼	12 54	K	—	—	PSC	8
333	28	Th.	6 50	N	4 14	D	9 24	28	6	6¼	1 14	I	12$^{A}_{M}$26	H	PSC	9
334	29	Fr.	6 51	N	4 14	D	9 23	27	7	7¼	1 32	H	1 32	I	ARI	10
335	30	Sa.	6 52	N	4 14	D	9 21	27	7¾	8¼	1$^{P}_{M}$51	G	2$^{A}_{M}$36	K	ARI	11

NOVEMBER hath 30 days. [1968



Beyond bleak winter's rage, beyond the Spring
That rolling Earth's unvarying course will bring,
Who tills the ground looks on with mental eye,
And sees next Summer's sheaves and cloudless sky.
Robert Bloomfield

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓	Farmer's Calendar.
1	Fr.	**All Saints**, ☾ on Eq. Hol. La. {9.3 9.2	*Begins*	A farmer's woodlot was once worth considerable, for wood was his only means of heat. In a world of sheep and cattle pastures, he could be hard put to it to keep his woodlot. Like as not the time would come when he'd have to turn it into pasture and buy another woodlot as close by as he could. To buy up woodlots, not only in one's town, but in the region, was profitable to many a shrewd farmer as a kind of second business. For though a woodlot in itself might not be a great piece, perhaps an acre or two—or less—or perhaps just a "corner," it was comparable in value then to a similar piece of suburban land today. But in a state that is now 90% wooded instead of 60% pastures and crops, a woodlot as such has little value. The superhighways and industries that follow them, however, offer opportunities for wealth the old timer with his sheep and woodlots never dreamed of. The fortunate countryman can offer his scrub and pasture lands (if he still owns them) as "industrial acres"—and there's gold in his gravel banks. He can make a nice profit indeed in buying them up. They're scarce, and unlike a woodlot, a gravel bank once dug out never grows back. But alas for the farmer whose lands are too far from the highways and industrial areas; he will be left still with the doubtful blessing of stone walls and field pine.
2	Sa.	**All Souls** Blizzard Gt. Plains 1956 {9.6 9.2	*fair,*	
3	F	**22nd a. P.** ♂ ☌ ☾ {9.8 9.2	*reneges*	
4	M.	Beaver Full Moon Will • Rogers Hol. • Okla.	*of course;*	
5	Tu.	Fawkes' Plot's not forgot • Elec. Day {9.9 8.9	*let's sue*	
6	W.	Noah Born B.C. 2948 ☌ ♂ ♃	*for divorce.*	
7	Th.	Arctic seals bear young Hol. Del. Tides {8.7 9.7	*Dandy,*	
8	Fr.	The Louvre opened 1793 ☾ in Apo. {8.5 9.5	*Andy.*	
9	Sa.	1st Newspaper Cincinnati 1793 ☾ runs high {8.2 9.2	*Fogs &*	
10	F	**22nd a. T.** Take a trip {8.0 9.0	*you'll*	
11	M.	St. Martin • Veterans D. • 1st U.S. Indoor Track Meet 1868	*need*	
12	Tu.	♂ ☉ Cellar root crops {7.7 8.6	*rain togs.*	
13	W.	*Real* Indian Summer (13–20) Tides {7.8 8.5	*Indians*	
14	Th.	*What one day brings* *Another may take away* {8.1 8.6	*invented*	
15	Fr.	[16th ☾ on Eq. • ♂ ♃ ☾] {8.5 8.8	*this warm*	
16	Sa.	Sadie Hawkins ☌ ☉ ☾ • ♂ ☌ ☾ {9.2 9.1	*spell,*	
17	F	**24th a. P.** Leonids of 1966	*to escape*	
18	M.	6 Bellamy Pirates exec. Boston 1718 ♂ ☿ ☉	*winter*	
19	Tu.	Alewives back in sea Tides {11.2 9.9	*by easy*	
20	W.	☾ in Peri. *He who'd fly must first have feathers*	*travel.*	
21	Th.	Mayflower Compact [22nd ♂ ♀ ☾] {11.7 —	*On both*	
22	Fr.	Kennedy Assas. 1963 ☾ rides low ♂ ♀ ☾	*of these*	
23	Sa.	Year's highest P.M. high tides May 12, Jun. 10, 11, Nov. 11	Hol. Md.	
24	F	**24th a. T.** Prune grapevines	*Saturdays*	
25	M.	Nathan Hale unveiled 1893 As today so next Feb.	*football*	
26	Tu.	Geese en-route south • Brig Somers Mutiny 1842	*fans will*	
27	W.	Phoebe Snow's Last Run 1967 (N.Y.-Chi. Rail Queen)	*see wet*	
28	Th.	**Thanksgiving Day** {8.9 8.9	*tragedies.*	
29	Fr.	Str. Portland Lost Portland Gale 1898 {9.0 8.6	*A splinter*	
30	Sa.	St. (Apo.) Andrew ♂ ☌ ☾ Tides {9.2 8.5	*of winter.*	

Lower man's metabolism only 8 degrees
He'll live as long as maple trees

1968] DECEMBER, Twelfth Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	21s. 53	7	22 40	13	23 11	19	23 26	25	23 23		
	2	22 02	8	22 47	14	23 15	20	23 26	26	23 21		
	3	22 11	9	22 52	15	23 18	21	23 27	27	23 18		
	4	22 19	10	22 58	16	23 21	22	23 27	28	23 15		
	5	22 26	11	23 03	17	23 23	23	23 26	29	23 12		
	6	22 34	12	23 07	18	23 24	24	23 25	30	23 08		

○ Full Moon, 4th day, 6 h. 08 m., evening, E.
☾ Last Quarter, 12th day, 7 h. 50 m., evening, E.
● New Moon, 19th day, 1 h. 19 m., evening, W.
☽ First Quarter, 26th day, 9 h. 15 m., morning, E.

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS — PAGE 16

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
336	1	F	6 53	N	4 13	D	9 20	27	8½	9	2P M12	F	3A M41	L	ARI	12
337	2	M.	6 54	N	4 13	D	9 18	26	9¼	10	2 36	D	4 45	M	TAU	13
338	3	Tu.	6 55	N	4 13	D	9 17	26	10	10½	3 05	C	5 50	O	TAU	14
339	4	W.	6 56	N	4 12	D	9 16	25	10½	11¼	3 38	B	6 53	P	G'M	15
340	5	Th.	6 57	N	4 12	D	9 15	25	11¼	11¾	4 21	A	7 54	Q	—	—
341	6	Fr.	6 58	N	4 12	D	9 14	25	—	0	5 12	A	8 49	Q	G'M	16
342	7	Sa.	6 59	O	4 12	C	9 13	24	0½	0½	6 11	B	9 36	Q	G'M	17
343	8	F	7 00	O	4 12	C	9 12	24	1¼	1¼	7 14	C	10 15	P	CNC	18
344	9	M.	7 01	O	4 12	C	9 11	23	1¾	2	8 18	D	10 47	N	CNC	19
345	10	Tu.	7 02	O	4 12	C	9 10	23	2½	2¾	9 25	E	11 14	M	LEO	20
346	11	W.	7 03	O	4 12	C	9 09	22	3¼	3½	10 33	G	11 36	L	LEO	21
347	12	Th.	7 04	O	4 12	C	9 09	22	4	4¼	11P M41	H	11A M56	J	VIR	22
348	13	Fr.	7 04	O	4 13	C	9 08	21	5	5¼	—	—	12P M16	I	VIR	23
349	14	Sa.	7 05	O	4 13	C	9 08	21	5¾	6¼	12A M49	J	12 38	H	VIR	24
350	15	F	7 06	O	4 13	C	9 07	20	6¾	7¼	2 02	K	1 00	F	LIB	25
351	16	M.	7 07	O	4 13	C	9 07	20	7½	8	3 19	M	1 28	E	LIB	26
352	17	Tu.	7 07	O	4 14	C	9 06	20	8½	9	4 42	N	2 03	C	SCO	27
353	18	W.	7 08	O	4 14	C	9 06	19	9¼	10	6 04	P	2 49	B	SCO	28
354	19	Th.	7 09	O	4 14	C	9 06	19	10¼	11	7 23	Q	3 49	A	SGR	29
355	20	Fr.	7 09	O	4 15	C	9 06	18	11	11¾	8 30	P	5 02	B	SGR	1
356	21	Sa.	7 10	O	4 15	C	9 06	18	—	0	9 23	O	6 23	C	CAP	2
357	22	F	7 10	O	4 16	C	9 06	17	0¾	1	10 03	N	7 44	D	CAP	3
358	23	M.	7 11	O	4 16	C	9 06	17	1½	1¾	10 33	M	9 01	F	AQR	4
359	24	Tu.	7 11	O	4 17	C	9 06	16	2½	2¾	10 57	K	10 13	G	AQR	5
360	25	W.	7 11	O	4 18	C	9 06	16	3½	3¾	11 17	J	11P M22	I	PSC	6
361	26	Th.	7 12	O	4 18	C	9 07	15	4½	4¾	11 37	H	—	—	PSC	7
362	27	Fr.	7 12	O	4 19	C	9 07	15	5¼	5¾	11A M56	G	12A M27	J	ARI	8
363	28	Sa.	7 12	O	4 20	C	9 07	14	6¼	6¾	12P M17	F	1 32	L	ARI	9
364	29	F	7 12	O	4 20	C	9 08	14	7¼	7¾	12 39	E	2 37	M	TAU	10
365	30	M.	7 13	O	4 21	C	9 09	13	8	8½	1 06	D	3 42	N	TAU	11
366	31	Tu.	7 13	O	4 22	C	9 09	13	8¾	8½	1P M39	C	4A M46	P	TAU	12

DECEMBER hath 31 days. [1968

Ring out, wild bells, to the wild sky,
The flying cloud, the frosty night.
The year is dying in the night.
Ring out, wild bells, and let him die.
Alfred, Lord Tennyson

D.M.	D.W.	Dates, Feasts, Fasts, Aspects, Tide Heights	Weather ↓
1	F	**Advent S.** Tides {9.4 {8.5	*Some*
2	M.	Cut Barbara's branches for Christmas creches {9.5 {8.4	*skating*
3	Tu.	Do not marry Dec. 1–Jan. 13 Tides {9.6 {8.4	*perhaps,*
4	W.	The Hunting Full Moon Earliest sunsets (4–12)	*before*
5	Th.	☾ in Apo. Kill pork and beef Tides {9.6 {8.3	*a*
6	Fr.	St. Nich. ☾ runs high • ☿☌☉ Sup.	*relapse.*
7	Sa.	Pearl Harbor Hol. Del. Tides {8.2 {9.5	*Old*
8	F	**2nd S. A.** Conception Virgin Mary {8.1 {9.3	*Sol's*
9	M.	♃☌♉ Boston's orig. codfish bt. 1746	*hidden*
10	Tu.	Ohio R. frozen Cincinnati 1918 Hol. Wyo. {8.0 {9.0	*by this*
11	W.	*Well done, Twice done* Tides {8.1 {8.9	*snowfall.*
12	Th.	*Follow love it flees, Flee love it follows.* Tides {8.3 {8.7	*Hoary*
13	Fr.	☾ on Eq. • ♂☊☾ • ♂♃☾ {8.6 {8.7	*glory.*
14	Sa.	[13 th St. Lucy Dartmouth Ch. 1769] {9.0 {8.7	*Ideal*
15	F	**3rd S. A.** ♂☌☾ Tides {9.6 {8.8	*for a*
16	M.	Hanukah Boston Tea Party 1773 {10.1 {9.0	*seal.*
17	Tu.	Shortest Days (17–25) ♂♆☾	*Cheeks red,*
18	W.	Embers 18, 20, 21 Typhoon sank 3 U.S. Destroyers, 1944	*enuf*
19	Th.	☾ rides low • ☾ in Peri. Tides {11.5 {9.6	*said.*
20	Fr.	*Halcyon Days, calm seas Little, if any, breeze.* {11.6 {9.7	*A warm*
21	Sa.	**Winter** begins 2.00 P.M. Forefathers'	*storm's nice*
22	F	**4th S. A.** ♄ Stat. in R.A. • ☌♀☾	*then*
23	M.	First Am. Penal Colony (Va.) 1617 {9.5 {10.8	*sparkles*
24	Tu.	Silent Night Comp. 1818 Tides {9.4 {10.2	*with ice.*
25	W.	**Christmas D.** {9.2 {9.6	*Christmas*
26	Th.	St. Stephen ☾ on Eq. Tides {9.1 {8.9	*is as*
27	Fr.	St. John ♂♄☾ Tides {9.0 {8.4	*white in*
28	Sa.	Childermas Chewing gum patent. 1869	*Cleveland*
29	F	**1st S. a. Ch.** Tides {9.0 {7.8	*as it*
30	M.	Latest sunrises (30–Jan. 9) Tides {9.0 {7.8	*is in*
31	Tu.	Happy New Year Fast of Tebet {9.1 {7.8	*Portland.*

Farmer's Calendar.

From Jamestown and Plymouth Rock to the present is but a little span of time. We Americans have created only a handful of generations to establish our genes and patent our antiquity. From discovery, to colonization, to states and a nation; to the winning of the west, the agony of the slave years, the ordeals and fortitude of wars, and panics, and insecurity: to miracles of adventure and inventions and creation—a fantastic picture, a scurry of history, especially American.

And yet within the frame of this picture there has been, in serene obscurity, a gentle sleeping of time—the Homestead Years, in which one generation passed to the next a heritage of lands, and labor, and love, and a common resting place at the last.

When I was very young, my grandfather told me (and he was the last one that could) something of those years—how he ploughed the high hill acres, and how, as far as he could look, were other hill acres with other boys ploughing alone. He told me of his earned leisure at sundown when he drove the cows home. He told of chopping wood in the woodlot, and of the wonderful rhythm of the saw when he and his father felled trees together. He told of taking his dog and gun at sundown to hunt partridge at the orchard's end, and of whistling back to the quail as he walked alone to school.

Grandfather told me these things. I shall be the last of our line to remember them.

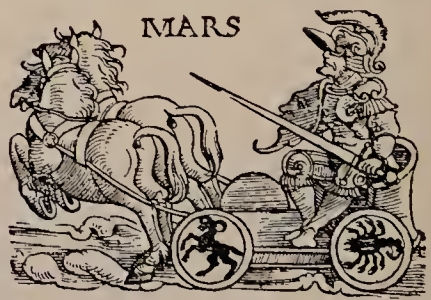
The Planets, 1968

Below are given the times of rising or setting of the Planets named, on the first, eleventh and twenty-first of each month. The time of the rising or setting of any one of said Planets between the days named may be found with sufficient accuracy by interpolation. For explanation of keys (used in adjusting times given to your town) see page 16. Keys appear below in capital letters.

VENUS

Venus is a Morning Star for almost the first half of the year and an Evening Star during its second half. Venus reaches Superior Conjunction on June 20. Its elongation, west of the sun as the year begins, will decrease steadily until June 20, and its rising will occur less and less before sunrise. After June 20 it will make its appearance in the western sky after sunset with an increasing eastern elongation which is nearing its greatest value as the year ends. The planet's brightness will be about the same at the year's beginning and end, approximately eight times that of the brightest star.

JAN	1st	rises	3 59 A.M.	M	MAY	1st	rises	4 13 A.M.	G	SEP	1st	sets	7 08 P.M.	I
	11th	"	4 19 A.M.	N		11th	"	4 04 A.M.	F		11th	"	6 54 P.M.	H
	21st	"	4 38 A.M.	N		21st	"	3 57 A.M.	E		21st	"	6 41 P.M.	G
FEB	1st	rises	4 55 A.M.	N	JUN	1st	rises	3 55 A.M.	D	OCT	1st	sets	6 30 P.M.	F
	11th	"	5 06 A.M.	N		11th	rises	3 59 A.M.	C		11th	"	6 22 P.M.	E
	21st	"	5 11 A.M.	N		21st	sets	7 27 P.M.	O		21st	"	6 17 P.M.	D
MAR	1st	rises	5 11 A.M.	M	JUL	1st	sets	7 39 P.M.	O	NOV	1st	sets	6 19 P.M.	C
	11th	"	5 07 A.M.	L		11th	"	7 46 P.M.	N		11th	"	6 27 P.M.	C
	21st	"	4 59 A.M.	K		21st	"	7 47 P.M.	N		21st	"	6 40 P.M.	C
APR	1st	rises	4 48 A.M.	J	AUG	1st	sets	7 42 P.M.	M	DEC	1st	sets	6 58 P.M.	C
	11th	"	4 37 A.M.	I		11th	"	7 33 P.M.	L		11th	"	7 20 P.M.	D
	21st	"	4 25 A.M.	H		21st	"	7 22 P.M.	J		21st	"	7 43 P.M.	E
											31st	sets	8 05 P.M.	F



MARS

Mars is an Evening Star from the year's beginning until it comes to Conjunction on June 21. Thereafter it graces the sky before sunrise as a Morning Star for the rest of the year.

JAN	1st	sets	8 01 P.M.	F	MAY	1st	sets	7 58 P.M.	N	SEP	1st	rises	3 14 A.M.	E
	11th	"	8 03 P.M.	F		11th	"	7 55 P.M.	N		11th	"	3 08 A.M.	F
	21st	"	8 04 P.M.	G		21st	"	7 51 P.M.	O		21st	"	3 01 A.M.	F
FEB	1st	sets	8 05 P.M.	H	JUN	1st	sets	7 46 P.M.	O	OCT	1st	rises	2 54 A.M.	G
	11th	"	8 05 P.M.	H		11th	sets	7 40 P.M.	O		11th	"	2 47 A.M.	G
	21st	"	8 05 P.M.	I		21st	rises	4 05 A.M.	C		21st	"	2 40 A.M.	H
MAR	1st	sets	8 05 P.M.	J	JUL	1st	rises	3 56 A.M.	C	NOV	1st	rises	2 31 A.M.	H
	11th	"	8 05 P.M.	J		11th	"	3 48 A.M.	C		11th	"	2 23 A.M.	I
	21st	"	8 04 P.M.	K		21st	"	3 40 A.M.	C		21st	"	2 14 A.M.	I
APR	1st	sets	8 03 P.M.	L	AUG	1st	rises	3 33 A.M.	D	DEC	1st	rises	2 06 A.M.	J
	11th	"	8 02 P.M.	L		11th	"	3 27 A.M.	D		11th	"	1 56 A.M.	J
	21st	"	8 00 P.M.	M		21st	"	3 21 A.M.	E		21st	"	1 47 A.M.	K
											31st	rises	1 37 A.M.	K

JUPITER

Jupiter is a Morning Star at the year's beginning and at its end. Between February 20 when it reaches Opposition and September 8 when it comes to Conjunction it is an Evening Star. It attains its greatest brightness of the year at and near opposition when it will be about 408,000,000 miles from the earth.

JAN	1st	rises	8 50 P.M.	G
	11th	"	8 08 P.M.	G
	21st	"	7 25 P.M.	G
FEB	1st	rises	6 35 P.M.	F
	11th	rises	5 50 P.M.	F
	21st	sets	6 45 A.M.	L
MAR	1st	sets	6 07 A.M.	L
	11th	"	5 25 A.M.	L
	21st	"	4 43 A.M.	L
APR	1st	sets	3 57 A.M.	L
	11th	"	3 17 A.M.	L
	21st	"	2 37 A.M.	L
MAY	1st	sets	1 58 A.M.	L
	11th	"	1 19 A.M.	L
	21st	"	12 42 A.M.	L
JUN	1st	sets	11 57 P.M.	L
	11th	"	11 21 P.M.	L
	21st	"	10 45 P.M.	L
JUL	1st	sets	10 09 P.M.	L
	11th	"	9 34 P.M.	K
	21st	"	8 59 P.M.	K
AUG	1st	sets	8 21 P.M.	K
	11th	"	7 46 P.M.	K
	21st	"	7 11 P.M.	K
SEP	1st	sets	6 34 P.M.	J
	11th	rises	5 11 A.M.	H
	21st	rises	4 42 A.M.	H
OCT	1st	rises	4 13 A.M.	H
	11th	"	3 45 A.M.	H
	21st	"	3 16 A.M.	H
NOV	1st	rises	2 43 A.M.	I
	11th	"	2 13 A.M.	I
	21st	"	1 42 A.M.	I
DEC	1st	rises	1 10 A.M.	I
	11th	"	12 37 A.M.	I
	21st	"	12 03 A.M.	I
	31st	rises	11 24 P.M.	I

SATURN

Saturn is an Evening Star until April 4 when it comes to Conjunction and becomes one again after it passes Opposition on October 15. Over the intervening period it is a Morning Star. When nearest the earth, on October 15, it will be about 774,000,000 miles away.

JAN	1st	sets	11 31 P.M.	I
	11th	"	10 55 P.M.	I
	21st	"	10 19 P.M.	I
FEB	1st	sets	9 40 P.M.	I
	11th	"	9 06 P.M.	I
	21st	"	8 32 P.M.	I
MAR	1st	sets	8 01 P.M.	I
	11th	"	7 28 P.M.	J
	21st	"	6 54 P.M.	J
APR	1st	sets	6 18 P.M.	J
	11th	rises	5 09 A.M.	H
	21st	"	4 33 A.M.	H
MAY	1st	rises	3 56 A.M.	H
	11th	"	3 20 A.M.	H
	21st	"	2 43 A.M.	H
JUN	1st	rises	2 03 A.M.	H
	11th	"	1 26 A.M.	H
	21st	"	12 48 A.M.	H
JUL	1st	rises	12 11 A.M.	G
	11th	"	11 29 P.M.	G
	21st	"	10 51 P.M.	G
AUG	1st	rises	10 09 P.M.	G
	11th	"	9 29 P.M.	G
	21st	"	8 50 P.M.	G
SEP	1st	rises	8 06 P.M.	G
	11th	"	7 26 P.M.	H
	21st	"	6 45 P.M.	H
OCT	1st	rises	6 04 P.M.	H
	11th	rises	5 23 P.M.	H
	21st	sets	5 33 A.M.	J
NOV	1st	sets	4 46 A.M.	J
	11th	"	4 03 A.M.	J
	21st	"	3 21 A.M.	J
DEC	1st	sets	2 39 A.M.	J
	11th	"	1 59 A.M.	J
	21st	"	1 19 A.M.	J
	31st	sets	12 40 A.M.	J

MERCURY

Mercury is most easily seen when near its greatest elongation. For observation just after sundown the best dates will be on and about January 30, May 23, and September 20 (the dates of its greatest eastern elongation), when it will set 1 h. 34m., 1 hr. 57 m., and 0 h. 44 m., respectively after the sun. For observation just before sunrise the best dates will be on and about March 12, July 11, and October 31 (the dates of its greatest western elongation), when it will rise 0h. 39m., 1 h. 21m., and 1h. 38m., respectively before the sun. Mercury will be in Superior Conjunction on April 24, August 7, and December 6, and in Inferior Conjunction on February 15, June 18, and October 15.

(A Planet is called Morning Star when it is above the horizon at sunrise, and Evening Star when it is above the horizon at sunset. More precisely, it is a Morning Star when it is less than 180° west of the Sun in right ascension and Evening Star when it is less than 180° east. When the planet is near conjunction or opposition, the distinction is unimportant.)

Salem Court House (facing south) where the action of this true, intriguing story is said to have taken place.

THE MAN WHO SUBDUED THE DREAD WOLF PEACH

by Henry N. Ferguson

■ EVERYONE IN SALEM, Massachusetts and the surrounding countryside knew that Colonel Robert Gibbon Johnson was an eccentric. If there were any doubters, his latest escapade brought them into line. It was in the early autumn of 1820, and Colonel Johnson had just announced that at high noon, on September 26, he would eat a Wolf Peach on the steps of the Court House.

Now scientists and doctors had long proclaimed the Wolf Peach to be a highly poisonous thing. No one had ever dared taste it for fear of the lethal consequences. Considering that Colonel Johnson's announced intention amounted to almost certain suicide, his friends and neighbors came from miles around to witness the execution. It was the considered opinion of most of the 2,000 who jammed the square that morning that Johnson was only seeking publicity and had not the slightest intention of emerging from his mansion on Market Street, a few doors away from the Court House, to test the effect of the dread **Solanum Lycopersicum.** Not all were agreed that he would drop dead in his tracks, but there was no question but he would suffer a lingering death. Hadn't the Wolf Peach been a known poison for centuries?

Colonel Johnson was 49 years old. Born and raised in Salem, he was a member of a pioneer family and was Salem's First Citizen. In 1808 he had made a trip abroad. When he returned, he introduced the **Solanum Lycopersicum** to the farmers of the community, persuading them to grow the Things as ornamental shrubs. In return, he offered prizes for the largest and most attractive at each County Fair.

Colonel Johnson was not only a man of wealth and social prestige, but a nonconformist of the highest degree. During the Revolutionary War, when he was only seven, he slapped a British officer. He marched in the Whisky Rebellion, was a friend of George Washington and admired the former President so much that he affected Washington's mannerisms and dress long after they went out of style. Such actions were a source of much amusement to his neighbors.

The Colonel had severed his membership with the Episcopal Church over a fancied slight to his friend, the Reverend Ashbel Green, president of Princeton College, who had been locked out of his quarters, accidentally. Johnson promptly joined hands with the Presbyterians, and gave them land next to his mansion to build a church of their own.

And now, he was about to climax an interesting life by challenging the deadly Wolf Peach or, as it was also called, the Jerusalem Apple or Love Apple — shrub, flower, fruit or whatever it was!

The Colonel's physician, Dr. James Van Meeter, had his own ideas concerning the folly of the undertaking. "The foolish Colonel will foam and froth at the mouth and double over with appendicitis," he predicted. "All that oxalic acid! One dose and you're dead. Johnson suffers from high blood pressure, too. That deadly juice will aggravate the condition. If the Wolf Peach is too ripe and warmed by the sun, he'll be exposing himself to brain fever. Should he survive, by some unlikely chance, I must remind that the skin of the **Solanum Lycopersicum** will stick to the lining of his stomach and cause cancer, eventually.

"I have given the Colonel the benefit of my scientific knowledge," concluded Dr. Van Meeter. "Reason will prevail. Johnson won't go through with it."

Noon came, but no Colonel Johnson. Weary spectators began to hoot and jeer. Then, 15 minutes past the hour, the Colonel emerged from his mansion and strolled up Market Street. The crowd broke into cheers. The firemen's band struck up a lively tune.

Johnson was an impressive figure as he strode along the street. He was dressed in his usual black suit with white ruffles, black shoes, tricorne hat, black gloves and cane. He had piercing eyes, a high forehead, aquiline nose, powerful chin, and iron-grey hair which he wore in a queue under his hat.

As he mounted the Court House steps he began a dissertation on the history of the **Solanum Lycopersicum.** He explained that it had been used as a food by the Egyptians and Greeks, only to be lost in antiquity. Much later, it had turned up in Peru and Mexico, where Cortez and Pizzaro took it to Europe. From there the Colonel had brought it to Salem.

Johnson selected a choice sample from the basket at his side. Holding it up he watched it glisten an evil scarlet in the sun.

"The time will come," he promised, "when this luscious, golden apple, rich in nutritive value, a delight to the eye, a joy to the palate — whether fried, baked, broiled or eaten raw — will form the foundation of a great garden industry, and will be recognized, eaten, and enjoyed as an edible food."

On and on rambled the speaker, his audience growing more impatient by the minute.

". . . and to help dispel the tall tales, the fantastic fables about this thing; to prove to you that it is not poisonous and will not strike you dead. I am going to eat one right now."

There was not a sound as the Colonel dramatically brought the **Solanum Lycopersicum** to his lips — and took a bite. A woman screamed and fainted in the dust of the street. She was ignored. All eyes were on Colonel Johnson as he took one astonishing bite after another. He ate two, then raised his hands high, turned completely around, and smiled broadly at the crowd.

The spectators broke into a rousing cheer. Doctor Van Meeter snapped shut his medical kit, jammed his hat over his ears, and stalked down the street. The firemen's band blared a jaunty air.

Men and women were nearly delirious with joy. "Look!" they shouted. "He's still alive! It's not poisonous! See, he's still on his feet!"

The thing that nobody thought was possible had come to pass. The flamboyant Colonel Johnson, first citizen of Salem, had successfully defied the warnings of scientists, botanists, doctors, and learned men of his day. Without leaving any shred of doubt, he had proved the pure and edible qualities of this dread shrub, and by so doing had transformed it into what was soon to be the "first fruit" of the American table: the tomato.

OUTDOOR PLANTING TABLE, 1968

The best time to plant flowers and vegetables which bear crops above the ground is during the LIGHT of the moon that is, between the day the moon is new to the day it is full. Flowers and vegetables which bear crops below ground should be planted during the DARK of the moon that is, from the day after it is full to the day before it is new again. These moon days for 1968 are given in the "Moon Most Favorable" columns below. See pages 24–46 for exact times and days of the new and full moons. On these pages you will also find in the "Moon's Place" columns, the Zodiac signs for each day. Those most favorable for planting flowers and vegetables which bear crops above ground are ARI, CNC, LIB, AQR, and PSC. The only sign which is good for flowers or vegetables which bear crops below ground is TAU.

The three columns below are for approximately the 42°, 39°, and 34° Latitude parallels. If the latitude of your town (see pages 91–108) is, for example, halfway between 42° and 39°, then you would plant on dates halfway between those given in the 42° column and the 39° column, etc. For every 500 feet above sea level, plant one week later than dates given below.

Above Ground Crops Marked (*) Plant Bet. New and Full Moon— All Others Bet. Full and New E means Early, L means Late.	42° Boston, Chicago, Des Moines, etc.		39° Wash., Cinc., St. Louis, Kan. City		34° Atlanta, Los Angeles	
	Plant Anytime Between Dates Below	Moon Most Favorable Between	Plant Anytime Between Dates Below	Moon Most Favorable Between	Plant Anytime Between Dates Below	Moon Most Favorable Between
*Barley	5-15/6-21	5-27/6-10	3-15/4-7	3-28/4-7	2-15/3-7	2-28/3-7
*Beans (E)	5-7/6-21	5, 7-12	4, 15-30	4, 27-30	3-15/4-7	3-28/4-7
(L)	6-15/7-15	6-25/7-9	7, 1-21	7, 1-9	8, 7-30	8, 23-30
Beets (E)	5, 1-15	5, 13-15	3-15/4-3	3, 15-27	2, 7-29	2, 7-27
(L)	7-15/8-15	7, 15-24	8, 15-30	8, 15-22	9, 1-30	9, 7-21
*Broccoli (E)	5, 15-30	5, 27-30	3, 7-30	3, 7-14	2-15/3-15	2-28/3-14
(L)	6-15/7-7	6-25/7-7	8, 1-20	8, 1-8	9, 7-30	9, 22-30
*Brussels Spr.	5, 15-30	5, 27-30	3-7/4-15	3, 7-14	2-11/3-20	2-28/3-14
*Cabbage Pl. (E)	5, 15-30	5, 27-30	3-7/4-15	3, 7-14	2-11/3-20	2-28/3-14
(L)	6-7/7-7	6, 7-10	7-1/8-7	7, 1-9	8, 15-30	8, 23-30
Carrots (E)	5, 15-30	5, 15-26	3, 7-31	3, 15-27	2-15/3-7	2, 15-27
(L)	6-15/7-21	6, 15-24	7, 7-30	7, 10-24	8-1/9-7	8, 9-22
*Cauliflower Pl. (E)	5, 15-30	5, 27-30	3-15/4-7	3-28/4-7	2-15/3-7	2-28/3-7
(L)	6-15/7-21	6-25/7-9	7-1/8-7	7, 1-9	8, 7-30	8, 7-8
Celery (E)	5-15/6-30	5, 15-26	3, 7-30	3, 15-27	2, 15-28	2, 15-27
(L)	7-15/8-15	7, 15-24	8-15/9-7	8, 15-22	9, 15-30	9, 15-21
*Corn, Sw. (E)	5-10/6-15	5, 10-12	4, 1-15	4, 1-12	3, 15-29	3, 28-29
(L)	6, 15-30	6, 25-30	7, 7-21	7, 7-9	8, 7-30	8, 23-30
*Cucumber	5-7/6-20	5, 7-12	4-7/5-15	4, 7-12	3-7/4-15	3-28/4-12
*Eggplant Pl.	6, 1-30	6, 25-30	4-7/5-15	4, 7-12	3-7/4-15	3-28/4-12
Endive (E)	5, 15-30	5, 15-26	4-7/5-15	4, 13-26	2-15/3-20	2, 15-27
(L)	6, 7-30	6, 11-24	7-15/8-15	7, 15-24	8-15/9-7	8, 15-22
*Flowers (All)	5-7/6-21	5, 7-12	4, 15-30	4, 27-30	3-15/4-7	3-28/4-7
*Kale (E)	5, 15-30	5, 27-30	3-7/4-7	3, 7-14	2-11/3-20	2-28/3-14
(L)	7-1/8-7	7-25/8-7	8, 15-31	8, 23-31	9, 7-30	9, 22-30
Leek Pl.	5, 15-30	5, 15-26	3-7/4-7	3, 15-27	2-15/4-15	2, 15-27
*Lettuce	5-15/6-30	5-27/6-10	3, 1-31	3, 1-14	2-15/3-7	2-28/3-7
*Melon (Musk)	5-15/6-30	5-27/6-10	4-15/5-7	4-27/5-7	3-15/4-7	3-28/4-7
Onion Pl.	5-15/6-7	5, 15-26	3, 1-31	3, 15-27	2, 1-28	2, 15-27
*Parsley	5, 15-30	5, 27-30	3, 1-31	3, 1-14	2-20/3-15	2-28/3-14
Parsnip	4, 1-30	4, 13-26	3, 7-31	3, 15-27	1-15/2-4	1, 16-28
*Peas (E)	4-15/5-7	4-27/5-12	3, 7-31	3, 7-14	1-15/2-7	1-29/2-7
(L)	7, 15-30	7, 25-30	8, 7-31	8, 7-8	9, 15-30	9, 22-30
*Pepper Pl.	5-15/6-30	5-27/6-10	4, 1-30	4, 1-12	3, 1-20	3, 1-14
Potato	5, 1-15	5, 13-15	4, 1-15	4, 13-15	2-10/3-1	2, 15-27
*Pumpkin	5, 15-30	5, 27-30	4, 23/5-15	4-27/5-12	3, 7-20	3, 7-14
Radish (E)	4, 15-30	4, 15-26	3, 7-31	3, 15-27	1-21/3-1	1, 21-28
(L)	8, 15-30	8, 15-22	9, 7-30	9, 7-21	10, 1-21	10, 7-20
*Spinach (E)	5, 15-30	5, 27-30	3-15/4-20	3-28/4-12	2-7/3-15	2-28/3-14
(L)	7-15/9-7	7-25/8-8	8-1/9-15	8, 1-8	10, 1-21	10, 1-6
*Summer Squash	5-15/6-15	5-27/6-10	4-15/5-1	4-27/5-1	3-15/4-15	3-28/4-12
*Swiss Chard	5, 1-30	5, 27-30	3-15/4-15	3-28/4-12	2-7/3-15	2, 7-14
*Tomato Pl.	5, 15-30	5, 27-30	4, 7-30	4, 27-30	3, 7-20	3, 7-14
Turnip (E)	4, 7-30	4, 13-26	3, 15-30	3, 15-27	1-20/2-15	1, 20-28
(L)	7-1/8-15	7, 10-24	8, 1-20	8, 9-20	9-1/10-15	9, 7-21
*Wheat (Winter)	8, 11-15	8, 5-8	9-15/10-20	9-22/10-6	10-15/12-7	10-21/11-4
(Spring)	4, 7-30	4, 29-30	3, 1-20	3, 1-14	2, 15-28	2, 28

THE MYSTERY of the MAGIC KILLERS

■ TO ANYONE brought up around apple trees, potato plants, and rose bushes—cabbages and gypsy moths—the dictionary of words pointing at insects and pests with intent to kill is not too large. Arsenic, sulphur, nicotine—a hand or barrel sprayer, a duster—and some idea of whether you are pursuing grubs, chewers, suckers, or blight, make you a formidable Protector of the Farm and Garden. You are not too bad either at the pluck and squash method right at the scene. Weeds are something else again. You get there with a hoe, a dandelion digger, a scratcher, an old kitchen knife, a broken back, and two displaced knee caps. Or, when it comes to the brambles, alders, unwanted brush and trees growing out from your walls or in the old pasture, clippers, axe, scythe, and the old fashioned hand pull, will do all the tricks. Come on now, you have to admit after it is all over, you enjoy it. You can survey the patch you have cleaned up—be it 10′ x 10′ or 500′ x 500′, as a job well done—you have done it—and give yourself an A for Accomplishment. The only thing is, next year there is the same durned job to do all over again. Everything cut down and destroyed has grown back into the exact place from which, last year, you had removed it. There is nothing to prevent you from continuing to win these "As" (and the Happy Life) each year from Spring to Winter.

But just in case you are wondering what has happened, or what is going on next door, when you see a field or forest that looks as if the Spanish Plague had descended upon it in the night, look up under H for Herbicide and consider its definition: "anything used to kill weeds." That "anything" is the surprise basket full of chemicals (trademarked and otherwise) which has your neighbor by the ears. He'll tell you, without your asking, he will soon have the best garden, the best lawn, the best pasture in town—no sweat, no broken back, no crooked knees, and by jiminy, the job once done, always done. If thee would go and do likewise, thou must get hep to the rules and regulations.

You should send for the **Handbook on Weed Control** ($1.25 postpaid), Brooklyn Botanic Garden, 1000 Washington St., Brooklyn, N. Y.; and ($1.25 postpaid) **Creating New Landscapes with Herbicides**, Bulletin 14. Connecticut Arboretum, Connecticut College, New London, Conn. Take some time off, also, and visit or write your State Extension Director (see page 117 of this ALMANAC) and get a list of government publications (usually 15¢ each) which may have a bearing on your problems. From these, and other sources, there follow some helpful hints which may or may not bring you to that first and fearsome day of your role as Willie the Weed Killer.

1. The Lawn

Once your lawn is well established, depending on its size, you can hand dust directly from a packaged duster or mix your chemical into an ordinary watering pot; or, get a lawnmower type of spreader

or gravity flower; or hitch a bottle proportioner to your hose. **Crabgrass** is best caught before it grows in the Spring with (now you've got to get yourself down to your local hardware or garden supply store) Azak, Bandam, Dacthol or Tupersan. Once crabgrass is up, go at it with DSMA or AMA. **Dandelions** and **plaintains**, and a number of other lawn weeds—in fact any broad-leaved weeds—give up the ghost with 2,4-D. **Chickweed** and **clover** go with silvex, dicamba, or mecoprop. A single application of a combination mixture (2,4-D with dicamba, silvex or mecoprop) will banish most broad-leaved weeds.

a) **Remember these chemicals are selective. They will select, for destruction, be it in lawns or elsewhere, those you wish destroyed, and leave the others unharmed.**

b) **Before you even open a can, bottle or bag, read the directions and instructions on the label and follow these exactly. Just as in the kitchen, one half teaspoonful of this or that, more or less, will ruin the recipe, so will too much of this or that chemical (or too little) defeat you as a killer.**

2. Fields, Walls, Pastures, Brush, et al.

With a fire extinguisher type of shoulder-carried container holding one part of 2,4-D and 2,4,5-T together, commercially known as "brushkiller," to 20 parts kerosene or fuel oil you can do away with most woody species. The so-called basal method soaks the base of small trees from about 12" up to the root collars. Another method is to notch 2 sides of the tree (leave the "chips" on) and soak the cuts, or fill with ammate crystals. Stumps can be soaked or covered with ammate crystals.

c) **These killers are for plants, so unless you are suicide minded don't drink or inhale or, once you have sprayed, go around chewing grass or leaves.**

d) **Don't go near a brook or well or any location where your spray just might poison your water supply.**

e) **Keep your poisons well capped and, if possible locked up, or out of reach of your children and pets. And, your children particularly, out of the sprayed areas. Do not use any arsenical compounds or soil sterilants.**

3. Poison ivy, poison oak, poison sumac, ragweed, et al.

2,4-D, 2,4-5T, or amitrole (often called amino-triazole), applied from a discreet distance will do away with these. Handpulling is dangerous. For many of the rashes, blisters, etc., caused by irritant plants there is no known cure. Wear gloves and high boots. Get somebody who knows to point out to you the poisonous plants around your house and get rid of them all, first time around.

4. Finally, there are special applications for asparagus and strawberry beds—even for your vines, shrubs, flower and vegetable gardens. As there is not space available here to give you these, we leave you to begin where we have left off; viz., at the very beginning. (There are weed killers, they are being used, perhaps they are for me, perhaps not, I'll think about it.)

PLANTING HINTS

The planting table on page 52 is at best but rule of-thumb for some—not all—locations. California—and the desert states—have, for example, their own particular seasons. The natives know best. No matter where you live, you should discuss planting (and harvest) dates with some farmer or grower who has been on his land for at least a dozen years—and who has managed, somehow, to produce excellent crops—ready for the table and market when they should be.

Second plantings, for example, if you lose the first one from a late frost, or too much or too little rain, will be in order. (Always save a little seed, just in case, from your first planting.)

When to pick is equally as important as when to plant. There is always the one exact day. One day earlier, or one day later, and you have lost what should have been yours—the advantage of the home grown over the "boughten."

GROW HERBS?

Herb plants and gardens are useful, decorative, and easy to care for. Often you can borrow from or exchange with neighbors seeds, cuttings, or plants. Consult your library for the many books on herbs—you will find them a fascinating hobby. Here are a few sources you can write to for catalogs, seeds or plants.

Caprilands Herb Farm
Coventry, Conn. (Cat. 10¢)

Sunnybrook Farms Nursery
9448 Mayfield Rd.
Chesterfield, Ohio

Winter Brook Gardens
North St., Medfield, Mass.
(By pers. visit only. Closed Wed.)

Cottage Herb Farm Shop
311 State, Albany, N.Y.

Greene Herb Gardens
Greene, R.I. (Mon.-Sat.)

The Herb Cottage
Washington Cathedral
Mt. St. Alban, Washington, D.C.

Hilltop Farm
Rt. 3, Box 216, Cleveland, Texas

Merry Gardens
1 Simonton Road
Camden, Maine (Cat. 25¢)

Natural Sales Co.
Box 25, Pittsburgh, Pa.

Indiana Botanic Gardens
P.O. Box 5, Hammond, Ind.

World Herb Co.
1160 N. Western Ave.
Hollywood 29, Calif.

F. W. Bolgiano & Co.
411 New York Ave. NE
Washington, D.C.

Carroll Gardens
Box 310, Westminster, Md.

Hav'alook Gardens
10045 Grand River Ave.
Fowlerville, Mich. (Cat. 25¢)

Road Runner Ranch
2458 Catalina Ave., Vista, Calif.

Ferry-Morse Seed Co.
Box 200
Mountain View, Calif.

Hart Seed Co.
Hart St., Wethersfield, Conn.

Mail Box Seeds
2042 Encinal Ave., Alameda, Calif.

T. W. Wood & Sons
11 So. 14th St., Richmond, Va.

All the above sources are taken from the HERB BUYERS GUIDE of the HERB SOCIETY OF AMERICA, 300 Mass. Ave., Boston, Mass. This full guide is available for 10¢ and a self-addressed return stamped envelope.

KILLING FROSTS and GROWING SEASONS

Courtesy of U. S. Weather Bureau

City	G.S. (Days)	Last Frost Spring	First Frost Fall
Lander, Wyo.	123	May 18	Sept. 18
Bismarck, N.D.	133	May 11	Sept. 21
Alpena, Mich.	141	May 13	Oct. 1
Helena, Mont.	145	May 7	Sept. 29
Reno, Nev.	145	May 14	Oct. 6
Marquette, Mich.	149	May 13	Oct. 9
Concord, N.H.	149	May 7	Oct. 3
Duluth, Minn.	152	May 6	Oct. 5
Green Bay, Wisc.	157	May 5	Oct. 9
Pocatello, Ida.	160	Apr. 29	Oct. 6
Denver, Colo.	160	May 3	Oct. 10
Pierre, S. Dak.	160	Apr. 30	Oct. 7
Minneapolis	166	Apr. 27	Oct. 10
Detroit, Mich.	170	Apr. 28	Oct. 15
Des Moines, Ia.	171	Apr. 21	Oct. 9
Fort Wayne, Ind.	171	Apr. 25	Oct. 13
Ludington, Mich.	172	May 2	Oct. 21
Albany, N.Y.	174	Apr. 24	Oct. 15
Madison, Wisc.	174	Apr. 26	Oct. 17
Santa Fe, N.M.	177	Apr. 25	Oct. 19
Hartford, Conn.	177	Apr. 20	Oct. 13
Toledo, Ohio	179	Apr. 22	Oct. 18
Portland, Maine	181	Apr. 19	Oct. 17
Spokane, Wash.	182	Apr. 14	Oct. 13
Parkersburg	184	Apr. 17	Oct. 18
Omaha, Nebr.	184	Apr. 14	Oct. 15
Salt Lake City	185	Apr. 18	Oct. 20
Chicago, Ill.	186	Apr. 16	Oct. 19
St. Joseph, Mo.	191	Apr. 9	Oct. 17
Trenton, N.J.	191	Apr. 16	Oct. 24
Springfield, Mo.	193	Apr. 12	Oct. 22
Boston, Mass.	195	Apr. 14	Oct. 26
Wichita, Kans.	197	Apr. 9	Oct. 23
Cincinnati, Ohio	198	Apr. 8	Oct. 23
Lewiston, Ida.	201	Apr. 6	Oct. 24
Harrisburg, Pa.	202	Apr. 9	Oct. 28
Evansville, Ind.	207	Apr. 5	Oct. 29
Cairo, Ill.	212	Mar. 31	Oct. 29
Richmond, Va.	216	Mar. 31	Nov. 2
Roseburg, Ore.	217	Apr. 8	Nov. 11
Oklahoma City	218	Mar. 30	Nov. 3
Chattanooga	220	Mar. 29	Nov. 4
Raleigh, N.C.	223	Mar. 27	Nov. 5
Little Rock, Ark.	241	Mar. 18	Nov. 14
El Paso, Tex.	242	Mar. 19	Nov. 16
Tucson, Ariz.	243	Mar. 11	Nov. 9
Macon, Ga.	245	Mar. 14	Nov. 14
Columbia, S.C.	246	Mar. 17	Nov. 18
Montgomery, Ala.	250	Mar. 8	Nov. 13
Shreveport, La.	251	Mar. 6	Nov. 12
Portland, Ore.	251	Mar. 15	Nov. 21
San Bernardino	259	Mar. 8	Nov. 22
Eureka, Calif.	277	Mar. 16	Dec. 18
Del Rio, Tex.	277	Feb. 23	Nov. 27
Sacramento	283	Feb. 19	Nov. 29
Phoenix, Ariz.	296	Feb. 10	Dec. 3
Yuma, Ariz.	334	Jan. 20	Dec. 20
San Francisco	350	Jan. 13	Dec. 29
Los Angeles	*	*	*
Miami, Fla.	*	*	*
San Diego	*	*	*

*Frosts do not occur every year.

PART TWO

Secrets of the Zodiac & Planets

(Being the interpretation, astrologic, and just for fun, Of all serious scientific data in Part One.)

FAMOUS DEBOWELLED MAN OF THE SIGNS

♈ Aries, head. ARI
Mar. 21-Apr. 19

♉ Taurus, neck. TAU
Apr. 20-May 20

♊ Gemini, arms. G'M
May 21-June 20

♋ Cancer, breast. CNC
June 21-July 22

♌ Leo, heart. LEO
July 23-Aug. 22

♍ Virgo, belly. VIR
Aug. 23-Sept. 22

♎ Libra, reins. LIB
Sept. 23-Oct. 22

♏ Scorpio, secrets. SCO
Oct. 23-Nov. 21

♐ Sagittarius, thighs. SGR
Nov. 22-Dec. 21

♑ Capricornus, knees. CAP
Dec. 22-Jan. 19

♒ Aquarius, legs. AQR
Jan. 20-Feb. 18

♓ Pisces, feet. PSC
Feb. 19-Mar. 20

Man of the Signs used by Abe Weatherwise, 1784

These signs, abbreviated, appear for each day on pages 24-26. Their meaning is given on pages 56-59. The illustrations, pages 57-59, are the actual patterns as seen in the sky by the ancients (see Hygini, Augusti Liberti, 1570).

The ancients believed (but we do not) that from the knowledge of the location of **each planet** in the heavens at the exact hour of one's birth one can foresee what kind of a life a child will have, what are the child's inclinations, and what sort of edueation will best serve the child. The heavens (called the Zodiac) were divided into 12 sections (called Signs) of about 30 days each. There follow on the next three pages brief resumes of the (ancient) meanings of each Sign by which the lives of those born within the period shown are governed. Those using the meanings of these Signs for themselves should also be guided by the Sign for each day of the year which appears in the next to the last column on pages 24 through 46. For example: if you were born on February 12, your ruling Sign is always Aquarius; but on February 12 (see Page 26) each year the Moon's Place will probably be in some other sign. Thus each year you will be "under the influence of" the sign shown here as well as the one given for your birthday on pages 24-46. You should "go by" the sign given here.

The birthstones given under each sign cover respectively, in the order given, the two monthly periods under each sign.

Also please remember that where the following letters appear under the Signs on pages 57-59 they indicate the best times for

A Cutting grass or brush, weeding.

B Cutting and setting posts or timbers.

C Cutting hay, pruning.

D Planting above ground crops.

E Planting root crops, house painting.

F Harvesting crops or herbs.

G Breeding, setting hens, creating, baking.

H Weaning.

I Slaughtering.

J Operations, pulling teeth.

K Hairdos, sheep shearing, buying clothes.

L Business, gambling, taking risks.

M Fishing.

N Travel, marriage, romance.

ARIES

ABBR: "ARI" SIGN: LAMB
Controls the head and face
Belongs to those born Mar. 21-Apr. 19
Ruling Planet, Mars; Birthstone
Jasper, Bloodstone, (Aquamarine);
Colors, Red, Green.

Best for D, L, G, F, I.

In Aries this year there is trouble,
Perhaps the breaking of a financial bubble.
Run, don't walk—far away
From any deep involvement, so we say.

TAURUS

ABBR: "TAU" SIGN: BULL
Controls the throat and neck
Belongs to those born Apr. 20-May 20
Ruling Planet, Venus; Birthstone
Diamond, Sapphire; Color, Blue.

Best for E, K, B, I, F, G.

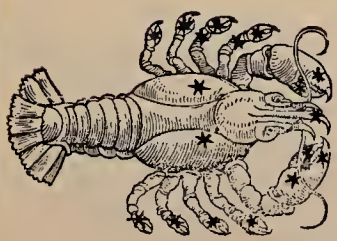
Why is Taurus the Bull
No good except after the moon is full?
Must mean that in 1968
All Taurians 'til after the full should wait.

GEMINI

ABBR: "G'M" SIGN: TWINS
Controls shoulders, lungs, arms,
hands, and the nervous system.
Belongs to those born May 21-June 20
Ruling Planet, Mercury; Birthstone,
Emerald; Color, Green.

Best for J, G, L, A, I, F.

These Twins are never cold;
They are hot, fierce, strangely bold.
In '68 of fevers they should beware,
Especially of any off-beat love affair.



CANCER

ABBR: "CNC" SIGN: CRAB
Controls breast and stomach
Belongs to those born June 21-July 22
Ruling Planet, Moon; Birthstone,
Agate, (Pearl, Alexandrite, Moonstone)
Color, Blends.

Best for D, M, K, G, I, A, C.

Cancer for some is a horrid word,
But here its meaning is absurd.
It says this year you'll find the action
Way up north in a polar "eraption."

LEO

ABBR: "LEO" SIGN: LION
Controls the heart
Belongs to those born July 23-Aug. 22
Ruling Planet, Sun; Birthstone,
Turquoise, (Ruby); Color, Blue-Red.

Best for K, B, A, F, N.

Leo the Lion this year brings luck:
For your winnings you'll need a truck,
At the races or in shares of gold.
Now don't ever say you were not told.

VIRGO

ABBR: "VIR" SIGN: VIRGIN
Controls the lower intestines
Belongs to those born Aug. 23-Sept. 22
Ruling Planet, Mercury; Birthstone,
Carnelian, (Peridot, Sardonyx);
Colors, Red-Brown, Green-Yellow.

Best for J, K, L, A, I, F.

Of Virgo we take care how we talk
Or she'll just take a huffy walk.
But listen all you dolls and guys:
The American League is in for a surprise.

LIBRA

ABBR: "LIB" SIGN: SCALES
Controls the loins
Belongs to those born Sept. 23-Oct. 22
Ruling Planet, Venus; Birthstone,
Chrysolite, (Sapphire);
Colors, Green-Blue.

Best for D, N, K, G, I.

Now comes Libra and cool Fall days
With the Giants, as usual, just out of plays.
But, take heart, and be real smart:
Buy land, or a house, in whole or in part.

SCORPIO

ABBR: "SCO" SIGN: SCORPION
Controls the generative organs
Belongs to those born Oct. 23-Nov. 21
Ruling Planet, Mars: Birthstone,
Beryl, (Opal, Tourmaline);
Color, Blends.

Best for M, G, I, A.

This year the drums are beating;
Election time means real unseating.
The pros will go out, the cons will be in;
Vote right or you'll be a real "has been."

SAGITTARIUS

ABBR: "SGR" SIGN: ARCHER
Controls the thighs
Belongs to those born Nov. 22-Dec. 21
Ruling Planet, Jupiter; Birthstone, Topaz; Color, Gold.
Best for J, N, K, F, I, H.

Take care, Saggy, this year is bare;
You can't do nothing without a real flair.
Of trips, marriage, and gossip beware;
At fancy romances you must only stare.

CAPRICORNUS

ABBR: "CAP" SIGN: GOAT
Controls the knees
Belongs to those born Dec. 22-Jan. 19
Ruling Planet, Saturn; Birthstone, Ruby, (Turquoise, Zircon);
Colors, Red-Blue-Green.
Best for J, G, I, H.

An odd beast is the Capricorn;
At one time he only had one horn.
No hippo him or guzzler of gin;
This year he's a regular Rin-Tin-Tin.

AQUARIUS

ABBR: "AQR" SIGN: WATER BOY
Controls the legs
Belongs to those born Jan. 20-Feb. 18
Ruling Planet, Uranus; Birthstone, Garnet; Color, Dark Red.
Best for D, K, B, I, H, A.

At the frozen fountain stands the boy;
No water, no juice, just a ridiculous toy.
But man, a thaw, early or late,
Brings real good news for him in '68.

PISCES

ABBR: "PSC" SIGN: FISH
Controls the feet
Belongs to those born Feb. 19-Mar. 20
Ruling Planet, Neptune; Birthstone, Amethyst; Color, Purple.
Best for D, M, B, G, I, H, C.

The "poor fish" in this sign born
Have hearts of gold—with love are torn.
This year luck comes with anything "ever"
Like Forever, Never, Lever, or However.

SCIENTIFIC PROGRESS 1966-67

A summary of developments in various fields of endeavor of presumable interest to lay readers. Sources (available on request) are scientific journals published from May 1966 through April 1967.

THE CYBERNETIC REVOLUTION

Cybernation, now hard upon us, is the complete adaptation of computer-like equipment to our industrial, economic, and social activities. In the opinion of Dr. Seaborg, Chairman of the Atomic Energy Commission, this will give us new freedom "and yet responsibilities which, if not acted upon, could result in the loss of almost all freedom."

For example, the procedure for renting a car will soon be that of placing a credit card in a slot. This card contains your bank account number and fingerprints in microform. You place the fingers of your free hand over a flat plate. The computer identifies you as to credit, etc., and hands you a key which will record your mileage as well as your time use of the car. If you exceed the speed limit, it is recorded by a hidden device which turns you in, fines you, and deducts the fine from your bank account. And, too, your story about who was with you in that car and where you went better be straight—because wifey will have known all about that even before you have told her. Similarly, trips to local doctors will soon become trips to local centers where computer automation will do all—your doctor won't even see you unless you've got something that has never been on tape. Net result: depersonalization, separation of man from product, reduction of work, shifts of needs and skills. With computer capability now a million mathematical operations per second, mankind will probably have to come to abandonment of work "central to existence." We will have to turn our education from "work to live" goals to "live to loaf or create" goals. In brief, a huge revolution of our goals and values is now in order—tomorrow may be too late.

HIGH SPEED TRANSPORTATION

by rail up to main line speed of 300 miles per hour is expected in the next 10 or 15 years. Presently, the first of the new projects is being tested between New York and Washington, D. C.

PRESERVATION OF FOODS BY RADIATION

has progressed slower than some had hoped. Thus far, FDA has approved only treatment of white potatoes to inhibit sprouting, wheat and flour for de-infestation, and bacon. None of them is available to the American consumer nor will others be until the FDA gives the word. This may take months or years. Reason: radiation affects genes —its effects can be studied only through many generations.

FLUIDICS

are beginning to take over a share of the electronic work load. Fluidics use air instead of electrons, channels instead of vacuum tubes. As fluidics, however, cannot transmit a signal for any considerable distance, their application will be mostly in automated control.

CRYONIC RESURRECTION

some years hence is planned for the late Dr. J. H. Bedford. At death Heparin was injected into his veins, a mechanical heart employed. His body was then frozen in dry ice and transferred to a "cryo-capsule." Candidates for this kind of immortality must provide $10,000 in advance.

THE BREEDER REACTORS

probably available in the 1980s will produce more nuclear fuel than they burn while producing electricity. Fuel shortage in America is something of the past—it will never happen. Right now power plants are converting from coal and other fuels to atomic energy. It is more economical. The reactors and the computers are the babies to watch.

ELECTRIC AUTOMOBILES

for reasons of non-pollution of the air were in the news in 1967. However, since an electric car runs out of power after about 50 miles, it is not as yet considered competitive or practical.

THE MICRO-TRANSPARENCY

recently developed by National Cash Register Company provides for the publishing of up to 3200 pages on a 4"x6" space. One transparency contains the complete works of Shakespeare. Eight transparencies contain a whole encyclopedia. Schools rent projectors for these transparencies at $10 per month.

SUICIDES IN PHILADELPHIA

are seen to be 30% above normal whenever barometric pressure changes by 0.35 inches or more.

THE WAGGLE OF THE NORTH POLE

has now been determined as a path down the western side of the Pacific at the rate of 7,000 miles in 450 million years, or ¼ of one degree per million years.

THE RUSSIANS ARE DRILLING

no less than five holes some 10 miles deep into the earth. At least one is probably now deeper than the deepest Uncle Sam ever dug (4.8 miles in Texas). In March of 1967 it was down 4 miles. Mohole, America's greatest scientific project, got down only 560 feet before squabbling and bickering set in about who had the contract. Congress failed to renew its appropriation last year.

DESALTING PLANTS

and plans, along with the construction of the world's largest facility at Los Angeles, are going ahead great guns. A study for a new plant in Greece revealed that for $68 million water could be had from the sea for 33¢ per 1,000 gallons—and, as a bonus, electric power worth 4.4 mills per kilowatt. Desalting was also given serious consideration to alleviate the late and unlamented drought in New York and New Jersey.

VOICEPRINT IDENTIFICATION

Bell Telephone Labs has developed a new system of identifying people by their voices. The cue words are: the, to, and, me, on, is, you, I, it, and a. By the manner in which an individual pronounces these words he can be individualized in the same way finger prints do this. And, if a criminal, tracked down.

ORIGIN OF METEORITES

It has been thought that stone meteorites came from the moon, iron ones from the astroidal belt. It is now suggested both came from the latter.

NAVIGATION BY SATELLITE

Experiments for nine months in the Atlantic and Pacific and Western oceans aboard the **Robert D. Conrad** indicate the U. S. Navy's satellite navigation system is accurate, reliable, and easily operated. It will be helpful under all weather conditions over a large part of the earth's surface.

SURFACE OF THE MOON

A United States and a Soviet selenologist agree the moon's surface is "quite solid, or a sponge-like, rough-textured mass scattered with sharp-edged fragments." Others believe it is cemented dust. However, these findings are not as yet confirmed by other than photographic hypotheses. At this writing, a U. S. satellite is there with a shovel.

Surveyor 3, as of April 22, 1967, indicates the moon's surface "looks and behaves much like damp and coarse beach sand. It is firm enough to support great weights but soft enough for easy digging."

THE CHEPHREN PYRAMID

at Gizen is about to be X-rayed to determine whether or not it has any undiscovered burial parlors within its mass of stone. Cosmic Ray Detector techniques are being used.

GLOBAL CIRCULATION OF NUCLEAR DEBRIS

The Chinese nuclear device exploded (May 14, 1965) debris around the world. Check points at Tokyo and Fayetteville, Arkansas measured sharp peaks in debris content of rain at Tokyo May 20, at Fayetteville May 26.

AUTOMATED SPACE CRAFT

Of 94 spacecraft launched up to January 1967, 84 have performed successfully. Of the 10 failures, 5 have been Fully Stabilized Lunar Probe craft, 3 have been Fully Stabilized Satellites. These vehicles are the most effective tools for exploration, probing unknowu regions, and continuous monitoring.

WATER RECOVERY TECHNIQUES

from space craft are being used to see if potable water can be recovered from wash water, urine, and condensate. The system is 30 inches, by 22 by 30—and could presumably supply two men with drinking water during a 30-day mission. Recovery rate is ¾ pound of water per hour.

MANNED SPACE STATIONS

The Saturn V, designed to launch Apollo vehicles to the moon, has a capability of placing an 100-ton space vehicle luto space. It is thought that several large observatories—such as those now at the South Pole—should be launched, fully staffed, for continuous operation over periods of 2 to 3 years. The crews would number 6 to 9 men. The scientific knowledge gaiued from these observatories should justify their cost.

SOLAR SYSTEM EXPLORATION

in the 1970s may expose Jupiter, Mercury, and the Sun to close-up inspection. This will be done with conventional multi-stage rocket systems.

HOW HOT IS VENUS?

What with the Mariner 2 Satellite sailing by Venus, and various radiometric measurements, it is now open to question whether or not her surface temperature is, as has been thought, higher than that of the Earth. More will be known once her cool cloud cover has been penetrated.

GENEALOGY OF THE GULF OF MAINE

In late Tertiary time, when the Alps and Himalayas were formed, this Gulf was a smooth shelf sloping towards the sea. During one of the Pleistocene glacial ages the area may have been exposed by a lowering of the level of the sea. Streams eroded a lowland. Glacial erosion deepened and widened the gulf. It was freed of ice about 11,000 years ago and various forces formed sand ridges on Georges Bank and at Nantucket Shoals.

COMMERCIAL CLOUD SEEDING

Ten seasons (1955-64) at various control stations in Santa Clara, California compared with ten seasons (1945-54) at the same location, reveal that the former, aided by commercial cloud seeders, show a net increase in precipitation. The seeders apparently were most effective down wind and in locations where rain was almost ready for release.

SCIENCE DOTH PROGRESS

At last count there were 620 different branches of science listed by the National Science Foundation. In the U.S.A. alone about 300,000 science articles are being published each year in some 6,000 different technical journals. On a worldwide basis, 35,000 journals publish two million articles by 750,000 scientists in 50 languages. In 50 years these figures will multiply 10 times or more.

JET FLIGHT SAFETY

What with the advent of aircraft carrying 500 to 1000 passengers, the statistical basis of "fatalities per hundred-million passenger miles" or "per million hours of flight" is being questioned. The evidence, according to N. E. Rowe, suggests that although accidents and fatalities have been falling by present measurement, the statistic is misleading. Fatalities, per accident, with scheduled jet transports, for example, now show a sharply rising trend. Worldwide, the risk is slight in flight, but notably higher than by rail or bus. Most of the fatal accidents occur during takeoff, climb, approach, and landing. Rowe suggests a far more realistic criteria would be "accidents per flight" and "fatal accidents per flight." These criteria would, despite a less favorable report than the ones now used (people are going to fly regardless), greatly encourage a desire on the part of manufacturers, airlines, the public, etc., for increasing attention to safety factors.

NOISE

In the last 15 years, industry has paid out no less than $15 million in loss-of-hearing suits. Noises from such obvious sources as sonic booms, traffic, sirens, riveting, combined with those of the vacuum cleaner, vent fan, and other household disturbances are due cause of psychological trauma manifested by ulcers, colitis, headache, and intestinal disturbances — and, over a period of several months or years, physiological noise deafness. Some progress is noted in the development of silencers, mufflers, and legislation.

SEA EYES

The weather bureau, army engineers, fishermen, etc., are now on parade for more ocean buoys. There is a scientific need, the world over, for constant accurate reports on weather, tides, storms, fish migration — which ships do not provide. Expense is a problem, but mooring as well as buoy activation machinery are others as yet unsolved. Some thought is being given to buoys that rest on the bottom — to rise only occasionally at given observation times; to almost weightless mooring lines (and buoys); to atomic power rather than batteries; and to size (they run all the way from two to 40 feet across, from 10 to 450 feet in depth).

WATCH THAT SPARK!

by

REXFORD DANIELS

Electrical Consultant to U.S. Defense Dept., Western Electric, M.I.T., and others.

Man's present struggles, to make all his electrical inventions work compatibly and not interfere with each other, have required science to uncover more and more of the electrical secrets of nature. In so doing, man is discovering why he likes to sing in the shower; how he can control insects and pests; how he can operate instruments directly by human thought; and why he, himself, is a mobile electrical instrument, like a radio-walkie-talkie, who can not only receive the electrical signals sent out by nature and man but also can do a pretty good job of sending out his own. In other words, man is finding that he constitutes an electrical compatibility problem along with his instruments.

Probably one of the most important discoveries made by science is the Principle of Resonance Absorption which, in non-technical terms, means that everything in nature can absorb one or more electrical frequencies or be affected by them. This has opened a Pandora's box of research possibilities of which science is now taking full advantage.

The scientists at Stanford Research Institute in California, for example, wanted to find out why people seemed to feel better and be more cheerful when near a waterfall, after a sudden rain, or in a bathroom shower. They soon found that running water created electrical currents which produced negative ions which, in turn, had a stimulating effect on man and made the more vocal ones want to express themselves. One time, however, when they left their test equipment on in a bathroom, they were puzzled to find the meter jumping around with no water running. On investigation, it was discovered that a girl was brushing her hair and thereby also creating negative ions — a phenomena which is now being explored further by imaginative members of the fair sex.

The U.S. Department of Agriculture has, in its efforts to find ways of controlling insects and pests, with other than the use of chemicals, discovered that electrical energy in different parts of the spectrum can be used effectively. In the infra-red part of the spectrum, a "window" was discovered through which heat or infra-red rays could be seen long distances. Nature was then found to be making use of this window to help certain insects propagate, especially the night-flying **lepidoptera** species. The female moth had learned that, when the time came for mating, she could attract the male by flying high and increasing her wing movements which, in turn, raised her body temperature so that it could be seen from long distances. The males were thus attracted and the species was propagated. But the unromantic scientists of the Department of Agriculture caught on to this phenomena and built instruments which could duplicate the visibility of the female moth, and put them up on poles the night before the females planned to fly. These attracted the males, who were done away with and, when the females rose the next night in all expectation, they were sadly disappointed. It, eventually, exterminated the insect specie but saved the farmer's crops.

A reverse technique, also used by the Department of Agriculture, was to breed and expose males to X and gamma rays which made

them impotent. They were then released at mating time and failed to fertilize the eggs of the female. Such breeds as the screwworm, **Callitroga hominivorax,** and the melonfly, **Dacus cucurbital,** were also exterminated in certain areas by this method.

As man has increased the speeds at which he travels, he has presented himself with two problems. One is the quicker time in which he has to operate the controls of his machines and the other is the force of gravity which will render him physically helpless if he has to turn too sharply. The first often requires quicker action than is possible by manual means and the other tends to prevent any action at all. To solve these two, scientists have found that they can take the mental command to push a certain button off the surface of a man's skin and translate it into an electrical pulse. Thus, if a button is to be pushed, or a control is to be moved, the mental command can be amplified electrically and an instrument made to do the job for him. The Air Force has been experimenting with this for several years in order to help fighter pilots, at the tremendous speeds at which they fly, keep complete control of their planes. It is also being tried with astronauts who may have to change the orbits of their capsules. Doctors are also experimenting with this phenomena to permit people who have lost arms or legs, or who may be paralyzed, to operate artificial limbs as they would have done with their own. Where man's electrical energy has become too weak to perform a needed function, science is now building substitute electrical controls, such as the pacemaker for the heart, which will permit man to live normally. Man has to be careful, however, not to go too near other sources of electrical energy, such as power lines and other radiating sources, as the signals are apt to get a little mixed and the man may behave erratically.

Man's ability to create electrical energy, himself, and to radiate electrical signals, it has been found, is not always desirable because he is now often interfering with his own work and with the instruments he is supposed to operate, and, unfortunately, the situation is getting worse as time goes on.

The development of what is known as microminiaturization of electrical circuitry, where a whole radio receiver, for example, can be built on the head of a pin, requires sensitive electrical components which can be affected by slight electrical charges. As a result, it has been found necessary to have the workers on these circuits thoroughly grounded at the wrists in order not to permit the static charges, which are built up on their bodies by even the movements in their chairs, to get into the components. There are also certain people who have stronger magnetic fields around their bodies than others, and these have often been found to affect the delicate instruments which they try to operate. This is an extension of the techniques which have had to be used in hospital operating rooms for many years in order to prevent sparks from igniting the explosive gases used to anesthetize patients, which calls for personnel to wear only certain kinds of clothes, stand on conductive floors while wearing conductive shoes, and have grounding bars which they can frequently touch to discharge any build-up of static on their bodies. It is also being found to apply to computers, which have microminiaturized circuits that can give strange answers if maintenance personnel are not properly grounded.

Doctors and biologists, however, are beginning to worry a little about how modern life is increasing the isolation of man from his normal environments and from his normal activities, because they are finding that man needs some of the electrical energies put out by the sun, moon, and from nature herself. With man being forced to live in air-conditioned buildings, in underground facilities, in underwater ships, such as submarines, and now in the air, and thus deprived of the full benefit of these stimulants, it is being found that his general mental and physical condition is sometimes affected. Industry has made several attempts to supply these deficiencies, such as providing negative ion generators; positive electrical fields; changes in humidity, atmospheric pressures, and other natural conditions; but they have fallen short of properly duplicating nature.

As science learns more and more about both nature's and man's use of the electromagnetic spectrum, some may wonder whether or not man's indiscriminate use of the spectrum might not be inadvertently upsetting some of the balances of nature. If it is ever discovered that science can manipulate human love as effectively as it can insect love, it can be assuredly prophesied that there is possibly a coming era when the human female will dominate in the study of electromagnetic compatibility.

FISH AND GAME SUMMARY

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Based on latest (mostly 1966-67) available laws courtesy of State Fish & Game Commissioners. For the most part 1968 laws not released until after press date (June, 1967) and so no attempt is made here at accuracy; in fact, only approximations of the months which may include seasons are given. This table useful only for vacation planning considerations and to satisfy curiosity as to what the various states offer in the way of hunting and fishing. Migratory Bird Regulations are available at any post office.

EXACT DATES, LIMITS, ETC. MUST BE VERIFIED LOCALLY.

STATE / SPECIES	ANTELOPE	BEAR	DEER	MT. GOAT SHEEP	ELK	MINK	MUSKRAT	OPOSSUM	RABBIT	RACCOON	SQUIRREL
Alabama		C	11-1			11-2	11-2	10-2	10-2	10-2	10-1
Alaska		O	8-9	8-12	8-12	11-1	11-6		O	O	O
Arizona	9	4, 9-1	9-12	12	9-11	O	O	O	O	O	9-11
Arkansas			10-1			11-1		11-1	11-1	11-1	9-1
California	C	9-12	8-11	C	C	11-2	11-3	O	9-1	O	10-12
Colorado	P9	4-10	9-12	P8, 11	10-11	11-1	11-4	O	9-2	O	
Connecticut			11-12			C	C		10-1	9-1	10-1
Delaware			11			12-3	12-3	11-1	11-12	11-1	9-10
Florida		11-1	11-1							O	11-1
Georgia		11-1	10-1			11-2	11-2	10-2	11-2	10-2	10-2
Hawaii	S	X	S	O	X	X	X	X	X	X	X
Idaho	S	O	9-12	9	9-12	11-12	11-12		9-2	O	C
Illinois			11, 12P			11-1	11-1	11-1	11-1	11-1	8-10
Indiana			11-12			11-1	11-1	11-1	11-1	11-1	8-10
Iowa			S			11	11-1	11-2	9-2	10-2	9-12
Kansas	C		P12			12-1	12-1	12-1	12-10	O	8-12
Kentucky			11			11-1	11-1	11-1	11-1	10	11-12
Louisiana		C	11-1						10-2		10-1
Maine		6-12	10-12			11	11		10-3	8-12	10-11
Maryland		C	9-12			11-3	11-3	9-3	11-1	9-3	10-11
Mass.											
Michigan		9-11	10-12		C	10-1	10-1	O	10-2	10-12	10-11
Minnesota		O, S	11			11-12	11-12		10-2	10-12	10-12
Mississippi		C	11-1			12-1	12-2	12-1	10-2	11-1	10-1
Missouri			S			C	C	11-1	5-2	11-1	5-12
Montana	10-11	10-11	10-11	9-11	10-11	X	X	X	O	O	O
Nebraska	9		11			11-1	11-3	O	O	O	9-1
Nevada	8-9		10-11	12	10-11	11-3	11-3		10		
New Hampshire		9-12	11-12			10-2	10-2		10-3	8-12	10
New Jersey		12	12			12	11-12		11-12	11-12	11-12
New Mexico	9-10	8-11	10-12	S	10-12	12	11-4		O	O	O
New York		11-12	11-12			10-3	10-4	O	10-2	10-3	10-12
Long Island		C	C			1-3	1-3	O	11-1	11-2	11-12
North Carolina		10-12	10-12			11-2	11-2	11-2	11-2	11-2	10-12
N. Dakota	8-12		8-12	C	C	11-12	11-12	X	O	O	9-12
Ohio		C	11			11-2	11-2	11-2	11-1	11-2	9-12
Oklahoma	9		11		11	12-1	12-1	12-1	9-2	12-1	5-12
Oregon	P8	O	10	P	10-11	11-1	11-2	O	O	O	10
Pennsylvania		11	10-1		C	11-1	11-3	O	10-1	O	10-1
Rhode Island			12						11-1	10-1	11-12
South Carolina		C	9-12			S	S	S	S	S	S
South Dakota	9	X	11	C	S	11-12	11-12	11-4	S	O	O
Tennessee	X	10	11-12	X	X	10-2	12-2	10-2	11-2	10-2	9-12
Texas	9-10	11-12	11-12	C	12	11-1	11-3	O	O	O	S
Utah	P	11-9	10-11	C	P	10-5	O	X	10-3	X	O
Vermont		9-11	11			10-2	10-4	O	10-2	8-12	10
Virginia		11-12	11S		C	12-1	C	10-1	11-1	10-3	9-10
Washington	C	O	10-11	9	11	11-1	11-3	O	10-2	O	C
West Virginia		11, 12	11-12			11-2	11-2	O	11-2	10-1	9-1
Wisconsin		9-11	9-12			10-1	11-12	11-12	10-1	S	10-1
Wyoming	9-11	4-6, 9-11	9-11	9-11	9-11	11-5P	O	O	9-4	O	O

SPECIALS IN CERTAIN STATES:

ALLIGATOR: Ala. (C), Fla. (6-1); Miss. (C) — BUFFALO: Alas (S), Ariz. (10); Minn. (O), S.D. (O), Utah (P), Tex. (C) — CARIBOU: Alas. (O) — COUGAR: Nev. (O) — IBEX, KUDU, GEMSBOCK: N. Mex. (C) — CHACHALACA: Tex. (12-1) — JAVELINA: Ariz. (2-3), N. Mex. (2), Tex. (11-12) — MOOSE: Alas. (8-12), Ida. (P), Mont. (9-11), Utah (P); Wyo. (9-10) — WILD BOAR: Cal. (10-3), Fla. (S), Haw. (O), N. C. (10-12), Tenn. (10), Tex. (10).

SYMBOLS USED PAGES 66 AND 67

Months: January is represented by the numeral "1" — February by the numeral "2"; etc.
Seasons: In the columns under the various animals, birds, and fishes you will note numerals. Thus "12-3" means the season opens in December and closes in March. A number alone means the season opens and closes within that month. Thus "12" alone means the season is December. A number followed by a comma denotes two seasons: thus "9, 12" would mean one September and another in December. "O" means no closed season; "X" not available; "S" special seasons; "C" closed; "P" permit only.

VERIFY EXACT OPENING & CLOSING DATES IN EVERY CASE.

PARTRIDGE GROUSE	PHEASANT	QUAIL	TURKEY	STATE SPECIES	BASS	CATFISH PERCH SUNFISH CRAPPIE	PIKE PICKEREL	SALMON	BROOK TROUT	LAKE TROUT	WHITEFISH
		11-2	11, 3	Alabama	O	O	O	O	O	O	O
8-5				Alaska	O	O	O	O	O	O	O
9-1	C	10-1	4, 10	Arizona	O	O	O	O	O	O	X
C	C	12	4	Arkansas	O	O	O				
9,10-1	11-12	11-12	C	California	O	O	O	2-11	4-10	4-10	4-10
9	11-12	11-12		Colorado	O	O	O	O	O	O	O
10-12	10-12	10	C	Connecticut	4-2	O	4-2	4-2	4-10	4-10	
10-12	11-12	11-12		Delaware	O	O	O	O	4-11	O	O
		11-1	11-1	Florida	O	O	O	O	O	O	
10-2		11-2	11-2	Georgia	O	O	O	C	4-10	O	
11-1	11-1	11-1	C	Hawaii	O	O-X-O-X	X	X	X	X	X
9-12	10-12	9-12	S	Idaho	O	O	X	S	6-10	4-11	O
11-12C	11-12	11-12	C	Illinois	O	O	5-11	O	O	O	O
11-12	11-12	11-12	C	Indiana	O	O	O	O	5-8	O	O
11-12	11-12	11-12		Iowa	O	O	5-2		O		
11	11-12	11-12	C	Kansas	O	O	O				
12-1		11-1		Kentucky	O	O	O	O	O	O	O
		11-2	4	Louisiana	O	O	O				
10-11	10-11			Maine	6-9	4-9	4-9	4-9	4-9	4-9	4-9
11-1	11-1	11-1	10-11	Maryland	O	O	O	O	4-3	4-3	O
10-11	10-11	10-11	C	Massachusetts	4-2	4-2	4-2	4-10	4-2	4-10	X
10-12	10-11	11	S	Michigan	6-12	O	5-3	8-9	4-9	O	4-9
10-11	10-11	C	C	Minnesota	5-2	O	5-2	X	4-9	1-9	O
		12-2	4	Mississippi	O	O	O	O	O	O	O
	11-12	11	4	Missouri	5-2	O	O				
9-10	10-11	X	9,10,4,5	Montana	O	O	O	5-11	5-11	5-11	S
9-10	11-1	11-1	4, 10	Nebraska	O	O	O	O	O	O	O
10	11	11	10-11	Nevada	O	O		S	O	O	O
10-12	10	10		New Hampshire	4-10	O	O	4-9	4-9	1-9	1-9
11-1	11-12	11-2	C	New Jersey	O	O	O	C3-4	C3-4	C3-4	O
9	11-12	11-1	10-11	New Mexico	O	O	O-X	X	5-11	X	X
10-1	10-11	10	10-11	New York	6-11	O	5-2	4-9	4-9	4-9	4-9
11-12	11-12	11-12	C	Long Island	6-11	O	5-2	4-9	4-9	4-9	4-9
10-2	11-2	11-2	11-2	N. Carolina	O	O	O	11-9	4-9		
9-12	10	X	11P	N. Dakota	5-12	O	5-12	X	5-12		X
10-2	11-1	11-1	5S	Ohio	O	O	O	O	O	O	O
O	11	11-1	11, 4	Okla.	O	O	O	O	O	O	O
10-11	10-11	10-11	11P	Oregon	O	O	X	O	4-10	4-10	O
10-1	10-11	10-11	10-11	Pennsylvania	6-3	O	5-3	O	4-9	4-9	O
10-1	10-12	10-12		Rhode Island	4-2	O	4-2		4-2		
S	S		S	So. Carolina	O	O	O	O	O	O	
9-10	10	11	11, 4-5	So. Dakota	O-S	O-S	O-S	X	O	X	X
11-2	C	11-2	4-5	Tennessee	O	O	O	X	O	X	
C	S	11-1	11-12	Texas	O	O	C	X	X	X	X
9-12	11	11	P	Utah	O	O	O	6-11	6-11	6-11	6-2
10	10	10	10	Vermont	6-11	O	5-3	4-9	4-9	4-9	
11-1	P	11-1	11	Virginia	O	O	O	O	4-12	4-12	O
9-12	10-12	10-12	10	Washington	4-10	4-10		O	4-10	4-10	S
10-2	11-1	11-1	10-11	W. Virginia	O	O	O	O	O	O	O
10-11	10-11	S	S	Wisconsin	5-2	O	5-2	X	5-9	5-11	O
10-11	10-11	10-11	10-11	Wyoming	O	O	O	5-10	5-10	5-10	O

BLUEGILL: Ariz. (O), Ga. (O); Ind. (O), Ia. (O), Mich. (4-9), N. M. (O), S. D. (O), Tenn. (O) — BULLFROGS: Ariz. (6-11), Ark. (4-12), Del. (5-12), Haw. (O), Ida. (6-10), Ill. (6-8), Ia. (O), Ind. (4, 6-10), Kans. (7-9), La. (4-5), Md. (O), Mo. (7-11), Neb. (7-10), Nev. (O), N. Mex. (8), Ohio (7-4), Ore. (O), Pa. (7-10), Tenn. (O), W. Va. (6-7), Wis. (5-12) — SHAD: Calif. (O), Conn. (4-6), Del. (3-6), Fla. (1-4), Ga. (1-4), Ia. (O), Md. (3-9), N. H. (1-8), Ore. (O) — STURGEON: Ariz. (S), Ida. (O), Ia. (O), Mich. (O), Ore. (O), S. Dak. (O), Wis. (S) — TERRAPIN: Fla. (X), Pa. (O), Tenn. (O).

ISAAK WALTON

THE MOST FAMOUS FISHERMAN OF THEM ALL

■ THIS YEAR of 1968 celebrates the 285th anniversary of the death of Isaac, or as he used to write it, Isaak Walton. Born at Stafford, England, August 9, 1593, he left this world in his 90th year at Winchester, December 15, 1683. A large black flat marble stone is inscribed to his memory in Prior Silksteed's Chapel in the Cathedral of Winchester. He was survived by a son, Isaac, and a daughter, Anne. To them, on October 24, 1683, he left most of his estate in a will remarkable for, among other things, the bequeathing of some 44 inscribed rings to various friends and relatives, "each to be delivered within forty days after my death; and the price or value of all the said rings shall be thirteen shillings and four-pence a piece." Not too much is known of his boyhood or education. By 1624, however, he was following the trade of "linen draper" in a shop on Chancery-Lane in London which he shared with one John Mason, "hosier." About 1632 he married. In 1643, though far short of a competency, he left London, "finding it dangerous for honest men to be there" and moved to "Stafford and elsewhere; but mostly in the families of imminent clergymen."

While in London his favorite recreation was angling. So great was his skill and experience in that art there is scarcely a writer on this subject since that time who has not made the rules and practice of Walton his foundation. With good reason, therefore, he is known as "the common father of all anglers."

The rules and directives for taking fish with hook and line, until Walton, had hardly ever been reduced to writing. In the 150-year interval between the invention of printing and Walton only five books on this subject had appeared. The first was printed by Wynken de Worde in 1496 at Westminster. A reproduction of the woodcut on its title page appears herewith. Walton drew somewhat, especially in his directives for making flies, from this "first" and to some extent on the other four.

However, his **Compleat Angler or Contemplative Man's Recreation** which appeared in 1653 is the piscine literary monument of all time whether one looks at its style, considers its humor, regards its scenes, or quotes its pastoral poetry.

The river Walton frequented for his fishing days was the Lea. It rises above Ware and empties into the Thames a little below Black-

well. The theme of the **Compleat Angler**—perhaps it should be called a device—is a discussion among three individuals as they walk on a "fine, fresh May morning from Tottenham to Ware." One is a fisherman, one a hunter, and one a falconer. Each commends his own particular recreation. There are, in this treatise, some 368 pages, many illustrations, songs, footnotes, and asides of various kinds.

No doubt it is available by now in paper back editions. We can't imagine a better way (unless it be that of just doing nothing at all) of passing the time between bait replacements than the relaxed perusal of this all-time great.

BOUNTIES?

There has been a renewal of interest in bounties among hunters, conservationists, wardens, and legislators. In general, the opinion seems to be that by placing unwanted animals high up on the sportsmen's list (longer seasons, etc.) or having state eradication teams pointed at the predators, the desired results are obtained to a far higher degree than through bounties. For one thing, bounties do not offer the control of our now-diminishing supply of wildlife which these other methods do. For example, we may desire fewer bobcats, but do we wish to eradicate them altogether? For another, in many cases damage payments caused by bountied animals actually increase when said animals are bountied . . . and it has been shown the bounty, for some reason or other, usually accompanies an increase rather than decrease in the animal or bird so marked.

The "most wanted" animals, birds, and snakes — if we believe bounties are a measure of these — are listed in the following number of states. The number of bountying states follows the name in parens: bobcat (18), fox (16), coyote (15), wolf (10), crow (9), woodchuck (6), mountain lion (5), bear (4), rattlesnake (4), gopher (4), porcupine (3), skunk (2), magpie (2), hawk (2), lynx (2), and in (1) state only — hair seal, bluejay, Belgian hare, copperhead, starling, weasel, blackbird, beaver, jackrabbit, ground squirrel, and the great horned owl.

Our own idea, if we are entitled to one, is that open seasons on all of the above (with the possible exception of the snakes) will deplete the supply as fast or faster than bounties will — and at far less expense.

BEST FISHING DAYS, 1968

There are probably more "fishing calendars" sold each year than all the almanacs put together. It is likely that the more mystifying the ingredients of these calendars are, the more popular they become. Almost all agree, however, that fishing is better when 1) the barometer is rising or high; 2) when the moon is between the new and the full; and 3) when the moon is in the astrological sign of Cancer, Pisces or Scorpio. The days listed below are days during which all three of the above are seen to occur. Those in parens are those during which only two of the above occur.

Jan. 7–15, 31; Feb. 2–10; Mar. 4–14, (17–18); Apr. 1–10, (22, 23), 30; May 1–7, (18–20), 29, 30; June 2–10, 25–27; July 2–9, 28, 29; Aug. 1–6, 10, 11, 19, 20, 27–30; Sept. 2–6, (22, 23), 24; Oct. 1–3, (4), (22–29), 30–31; Nov. 1, (2–4), (10, 11), (20–26), 27, 28, (29, 30); Dec. (1), (20–24), 25, 26, (27–31).

Here are a few observations, taken from a room full of fishing books and clippings, which may or may not prove helpful:

Water temperatures between 55°F and 74°F are best; the clearer the water, the better, preferably with a slight ripple; south and west winds are the best, or any off-shore breeze.

The best times for fishing (or hunting) are one hour before and after high tide, and one hour before and after low tide. The times of high and low tides are given on pages 24–36, and corrected for your locality on page 112. Low tides are halfway between high tides.

"SUFFRAGETTE" RECEIPTS

On July 19, 1848 at Seneca Falls, N. Y., a general declaration of women's rights was first presented, authored by Elizabeth Cady Stanton, Lucretia Mott, and others. In 1869, a National Woman Suffrage Association, led by Susan B. Anthony and Mrs. Stanton, was formed, and the American Woman Suffrage Association, led by Lucy Stone, was organized to work through State Legislatures; in 1890 these two societies merged.

In 1886, Mrs. Hattie A. Burr edited **The Woman Suffrage Cook Book**, "published in aid of the Festival and Bazaar" at Boston, December 13-19, which included contributions of thoroughly tested recipes by women teachers, lecturers, physicians, ministers, and authors known to favor suffrage at that time. Mrs. Burr stated in her Preface, "I believe . . . our messenger will go forth a blessing to housekeepers, and an advocate for the elevation and enfranchisement of woman."

There follow a number of these "receipts," chosen at random.

Home Made Yeast

Boil a heaping quart of loose hops (or if they are pressed, two ounces) in one gallon of water, strain it, when it is cold put in a small handful of salt, and a half pound of sugar, then take a pound of flour and rub it smooth with some of the liquor, after which make it thin with more of the same liquor, and mix all together, let this stand twenty-four hours; then boil and mash three pounds of potatoes and add to it, let it stand twenty-four hours more; then put it in a bottle or a tight vessel, and it is ready for use. Shake the bottle before using. It should be kept in a warm place while it is making, and in a cool place afterward.

Lucy Stone, Boston

Tomato Catsup

Take a half bushel of ripe tomatoes; press through a sieve until you have all the pulp; put the pulp into a porcelain kettle, and when it begins to boil add one-half teacupful of salt, one ounce of whole cloves, one ounce of grated nutmeg, one ounce mace pounded fine, half teaspoonful of cayenne pepper (more cayenne pepper if preferred), one quart of good vinegar. Boil one and a half hours. When cold, bottle, and stop tight.

Mrs. Oliver Ames, Boston

Old-Time Baked Indian Pudding

Three pints of sweet milk, two large iron spoonfuls of yellow cornmeal, one small egg, one iron spoonful of molasses, three-fourth cup of sugar, heaped teaspoonful of ginger, level teaspoonful of cinnamon, one-third of a small nutmeg, and one-half a teacupful thick, sour cream. Put half the milk over the fire with a sprinkling of salt; as soon as it comes to a boil scatter the meal quickly and evenly in by hand. Remove immediately from the fire to a dish, stir in the cold milk, the egg well-beaten, the spices, sweetening, and sour cream. Bake three hours, having a hot oven the first half hour, a moderate one the remainder of the time. Eat with sweet cream. If rightly made and rightly baked, this pudding is delicious, but four things must be remembered as requisite: First, the pudding must be thin enough to run when put in the oven. Second, the egg must be small, or if large, but two-thirds used for a pudding of the above size. Third, the sour cream must not be omitted (but in case one has no cream, the same quantity of sour milk with a piece of butter the size of a small butternut can be substituted). Fourth, the baking must be especially attended to. Many a good receipt is ruined in the cooking, but if the directions are carefully followed, this pudding will be quavery when done, and if any is left, a jelly when cold. Use no sauce, but sweet cream or butter.

Matilda Joslyn Gage, Fayetteville, N. Y.

Children's Doughnuts

One cup sweet milk, two cups sugar, three eggs, lemon flavoring, three heaping teaspoonfuls baking powder. Sift about two quarts flour into mixing pan, making place in the center for baking powder, sugar, eggs, flavoring, and butter size of walnut. Add the milk, mixing slowly, and use enough flour to roll without sticking. Roll quite thin; cut in rings, and fry in smoking hot lard. Drain well. Equal parts of lard and beef fat may be used.

Mrs. Jessie F. A. Banks, Boston

Snow Griddle Cakes

Take six tablespoonfuls flour, add a little salt, and six tablespoonfuls of light, fresh-fallen snow. Stir the flour and snow well together, add a pint of sweet milk. Bake the batter in small cakes on a griddle, using only a very little nice butter. They may be eaten with butter and sugar, and are very delicate.

Ednah D. Cheney, Boston

Salmon Hash

Mash until light eight good-sized potatoes, season thoroughly, stir into the potato one-half can of salmon picked fine; heap on a platter, smooth, and mark with a fork, and set in the oven to brown. Salt salmon may be used instead of canned salmon.

Ella C. Elder, Florence, Mass.

Raspberry Pudding

One-quarter cupful of butter, one-half cupful of sugar, two cupfuls of soft bread-crumbs, four eggs. Rub the butter and sugar together; beat the eggs, yolks and whites separately; mash the raspberries, add the whites beaten to a stiff froth; stir all together to a smooth paste; butter a pudding-dish, cover the bottom with a layer of the crumbs, then a layer of the mixture; continue the alternate layers until the dish is full, making the last layer of crumbs; bake one hour in a moderate oven. Serve in the dish in which it is baked.

Mrs. Alice A. Geddes, Cambridge, Mass.

Rhubarb Toast

Take one pint water, half a cup of sugar; when boiling put in two pounds rhubarb cut in small pieces. Stew until done; when cold pour over a platter of hot toasted graham bread, having a little butter upon it. This is an excellent breakfast dish, and as the toast absorbs the peculiar rhubarb flavor, can be eaten by those who usually dislike it. Gooseberries and tart apples can be prepared in the same way.

Note: Never use white bread for toast, when bread of the unbolted or entire wheat flour can be had. The latter never becomes doughy, and is much better flavored, besides being more nutritious.

Alice B. Stockham, M.D., Chicago

Rebel Soup

Heat one quart of milk to the boiling point, add one cracker rolled fine; to one cup of tomatoes add one-fourth teaspoonful soda, stir, and while foaming add it to the boiling milk; put butter, salt, and pepper in the dish, and pour the soup on them.

Mrs. Mary F. Curtiss, Boston

Macaroni and Oysters

Take boiled macaroni and put a layer in a deep dish, above this put a layer of good-sized oysters dried with a soft towel; season these two layers with butter, pepper and a very little salt: add another layer of macaroni, season with butter and salt; a layer of oysters, season with butter, and pepper, and salt; the top layer of macaroni, with butter and salt. Set in the oven long enough to cook oysters and brown the macaroni.

Mrs. Sarah R. Bowditch, Brookline, Mass.

Fricandelles

Chop cold meat very fine, add teacup of scalded milk in which a teacup of bread crumbs has been rubbed smooth, half cup of butter, juice of half a lemon, salt and pepper. Make into balls, roll in yolks of eggs, brown in butter. Remove balls, brown tablespoon of flour in the butter, add slowly a pint or more of beef stock, boil two minutes, replace balls and cook slowly for an hour. Serve with toast and lemon. Beef, chicken, etc. may be used. If veal is used, add half cupful chopped ham.

Mrs. Jessie F. A. Banks, Boston

Plum Catsup

Boil the plums, skins and all, with a little water, and, when soft, strain through a colander, pressing the pulp through. To five pounds of pulp and juice add three pounds of light brown sugar, one pint best cider-vinegar, one salt-spoonful of black pepper (use cayenne if you prefer), one tablespoonful each of salt, ground cinnamon, and mace, two teaspoonfuls of cloves (ground). Boil twenty minutes.

Mary F. Daniell, Boston

Sweet Pickled Cabbage

Cut a head of cabbage iuto halves or quarters; after trimming away the finer outside part (which may be used for slaw) boil the heart and stem part of the leaves left in clear water and a little salt till quite tender. Drain well for five or six hours or over night; then to one pint of vinegar add a coffee-cupful of sugar, with whole spices and stick cinnamon to taste (let the cinnamon preponderate). Put cabbage in jar, pour vinegar and spices over while boiling-hot; as soon as cold it will be ready for use; will keep a fortnight. If preferred, the cabbage heart can be left whole, the leaves trimmed till within a couple of inches of it all around, when it is very ornamental for lunch party or festival supper.

Louise V. Boyd, Dublin, Ind.

Apple Batter Pudding

Three eggs beaten very light, one pint milk, half teaspoonful salt, one dozen apples chopped fine and added to batter. Bake in cake pans half hour. Serve on platter with cold hard sauce.

Mrs. Benj. F. Pitman, Somerville, Mass.

Squash Pie Filling

To one pint sifted squash add one quart boiling milk, one egg, two crackers rolled fine, one large cupful sugar, one teaspoonful cornstarch, half teaspoonful cinnamon, half teaspoonful salt and a little nutmeg.

Mrs. H. Andrews, Fitchburg, Mass.

TABLE OF MEASURES

Apothecaries

1 scruple=20 grains
1 dram=3 scruples
1 ounce=8 drams
1 pound=12 ounces

Avoirdupois

1 pound=16 ounces
1 hundredweight=100 pounds
1 ton=20 hundredweight=2000 pounds
1 long ton=2240 pounds

Cubic Measure

1 cubic foot=1728 cubic inches
1 cubic yard=27 cu. feet
1 register ton (shipping measure)=100 cubic feet
1 U. S. shipping ton=40 cu. ft.
1 cord=128 cubic feet
1 U. S. liquid gallon=4 quarts=231 cubic inches
1 imperial gal.=1.20 U. S. gals.=0.16 cubic feet
1 board foot=144 cubic inches

Dry Measure

2 pints .....=1 quart (qt.)
4 quarts .....=1 gallon (gal.)
2 gallons or 8 quarts .....=1 peck
4 pecks .....=1 struck bushel

Linear Measure

1 foot=12 inches
1 yard=3 feet
1 rod=5½ yards=16½ feet
1 mile=320 rods=1760 yards=5280 feet
1 U. S. nautical mile=6076.1033 feet
1 knot=1 nautical mile per hour
1 furlong=⅛ mile=660 feet=220 yards
1 league=3 miles=24 furlongs
1 fathom=2 yards=6 feet
1 chain=100 links=22 yards
1 link=7.92 inches
1 hand=4 inches
1 span=9 inches

Square Measure

1 square foot=144 square inches
1 sq. yard=9 sq. feet
1 sq. rod=30¼ sq. yards=272¼ sq. feet
1 acre=160 sq. rods=43560 sq. ft.
1 sq. mile=640 acres=102400 sq. rods
1 sq. rod=625 square links
1 sq. chain=16 square rods
1 acre=10 square chains

Troy

(Used in weighing gold, silver, jewels)

1 pennyweight=24 grains
1 ounce=20 pennyweight
1 pound=12 ounces

Household Measures

120 drops water=1 teaspoon
60 drops thick fluid=1 teaspoon
2 teaspoons=1 dessertspoon
3 teaspoons=1 tablespoon
16 tablespoons=1 cup
1 cup=½ pt.
1 cup water=½ lb.
3 tablespoons flour=1 oz.
2 tablespoons butter=1 oz.
3 teaspoons soda=½ oz.
4 teaspoons baking powder=½ oz.
2 cups granulated sugar=1 lb.
3¾ cups confectioners' sugar=1 lb.
2½ cups wheat flour=1 lb.
3½ cups whole wheat flour=1 lb.
2½ cups buckwheat flour=1 lb.
5⅓ cups coffee=1 lb.
6½ cups tea=1 lb.
2 cups lard=1 lb.
2 cups butter=1 lb.
2 cups corn meal=1 lb.
2 cups powdered sugar=1 lb.
2¾ cups brown sugar=1 lb.
2⅜ cups raisins=1 lb.
2⅜ cups currants=1 lb.
9 eggs=1 lb.

Liquid Measure

4 gills=1 pint (O.)
2 pints=1 quart (qt.)
4 quarts=1 gallon (gal.)
63 gallons=1 hogshead (hhd.)
2 hogsheads=1 pipe or butt
2 pipes=1 tun

Metric

1 inch=2.54 centimeters
1 meter=39.37 inches
1 yard=0.914 meters
1 mile=1609.344 meters=1.61 kilometers
1 sq. inch=6.45 sq. cm.
1 sq. yard=0.84 sq. m.
1 sq. mile=2.59 sq. km.
1 acre=0.40 hektars
1 cu. yard=0.76 cubic meters
1 cu. meter=1.31 cubic yards
1 liter=1.06 U. S. liquid quarts
1 hektoliter=100 liters=26.42 U. S. liquid gallons
1 U. S. liquid quart=0.94 liters
1 U. S. liquid gallon=3.76 liters
1 metric ton=1000 kilograms
1 kilogram=2.20 pounds
1 pound avoirdupois=0.45 kilograms

Anecdotes and Pleasantries

GOD'S REVENGE AGAINST MURDERER

Two young Men bathing in the River **Yarrow**, quarrelled, and in the heat of Passion, One stabbed the other to the Heart, with a **Fish Spear**; although stupefied with the Act, Self-preservation dictated the Concealment of the Body, which he buried deep in the Sauds. As the Meeting at the River was accidental, he was never suspected, although a visible Change was observed iu his Behaviour, from Gaiety to a settled Melancholy. Time passed on for the Space of **Fifty Years**, when a **Smith**, fishing near the same place, discovered an uncommon aud curious **Bone**, which he put iu his Pocket, and afterwards accidentally shewed to some Persons in his **Smithy**. The **Murderer** being present, now an old white-headed Man, leaning on his Staff, desired a sight of it, but how horrible was the Issue! no sooner had **He** touched it, thau it streamed with **Blood**; being told where the **Bone** was found, he confessed the Crime, was condemned, but was prevented by **Death**, from suffering the Punishment due to it.

Stirlingshire, Eng. Circa 1750

1806 ADVERTISEMENT

Dr. Simon Ramrod has recently discovered a tincture made from the gridiron plant becomes a specific remedy for every complaint of mind or body to which human nature has been subject since the Flood. It will also prevent accidents, quicken the circulation, and strengthen the muscles. The following testimonials prove the efficacy of Ramrod's Tincture of Gridiron.

The subscriber has long been afflicted with the tooth-ache, to such a degree that nearly all his teeth have been drawn out; and, by an unjust sentence, he also, unfortunately, had both his ears cut off. On applying the Tincture of Gridiron his teeth were restored, and his head was instantly supplied with as fine a pair of ears as he could boast of the day he was born.

John Earwig

Sometime ago my house was very much infested with rats; and one day, while I sat brooding over my misfortunes, a large number of them suddenly came upon me, and eat me up. I instantly took some of the Tincture of Gridiron, and found myself at ease, and have never been eaten since.

Jack Recover

Walking, not long since, near the machinery of a mill, I was caught and carried between two cogwheels, and every bone in my body broken to pieces. A phial of Ramrod's Tincture of Gridiron being thrown into the mill pond, I found myself restored, and as whole and sound as a roach.

Dick Whirligig

IMPROVING THAT SPEECH

Mark Twain's success on the platform is said to have been much greater after he did away with his manuscript. From the written lecture, he came down to copious notes; from these to a little card with printed heads, which he put in his waistcoat pocket. He dispensed with this by substituting a few marks on the back of his finger nails, and then he went it alone.

THIRTY DAYS HATH

One of the most useful rhymes in the world is the familiar jingle beginning, Thirty days hath September; and yet millions who repeat the verse never know the name of its author. From a book recently published, **England as Seen by an American Banker**, it appears that the rhyme was written by a school teacher in Newcastle-on-Tyne, named C. F. Springman. He introduced into his school the idea of teaching history, geography and other

branches through the medium of rhyme, and one day he hit upon this bit of jingle in order to impress upon the minds of the boys, in an indelible manner, the number of days in the different months of the year.

THE WAY OF THE WORLD

Laugh, and the world laughs with you.
Weep, and you weep alone,
For the brave old earth must borrow its mirth.
It has trouble enough of its own.
Sing, and the hills will answer,
Sigh, and it is lost on the air;
The echoes rebound to a joyful sound
And shrink from voicing care.

Rejoice, and men will seek you,
Grieve, and they turn and go;
They want full measure of your pleasure,
But they do not want your woe.
Be glad, and your friends are many,
Be sad, and you lose them all;
There are none to decline your nectared wine;
But alone you must drink life's gall.

Feast and your halls are crowded,
Fast, and the world goes by;
Forget and forgive — it helps you to live,
But no man can help you to die!
There is room in the hall of pleasure
For a long and lordly train,
But, one by one, we must all march on
Through the narrow aisle of pain.

Ella Wheeler Wilcox, "Solitude".

A CURIOUS DUEL

A duel was lately fought by Alexander Shott and John Nott. Nott was shot and Shott was not. In this case it is better to be Shott than Nott. There was a rumor that Nott was not shot, and Shott avows that he shot Nott, which proves either that the shot Shott shot at Nott was not shot, or that Nott was shot.

Notwithstanding that circumstantial evidence is not always good, it may be made to appear on trial that the shot Shott shot shot Nott, or as accidents with firearms are frequent it may be possible that the shot Shott shot shot Shott himself, when the whole affair would resolve itself into its original elements, and Shott would be shot and Nott would be not. We think, however, that the shot Shott shot shot not Shott but Nott. Anyway, it is hard to tell who was shot.

Courtesy of A. H. Langlois

IDES OF MARCH (see pg. 29)

The Ides were eight old women, Nones nine, and Colind another — making eighteen on the whole whose breath were polson. These old hags were sure to be out in bad going and old Mother Colind took the lead. Hence the expression "Beware of old Colind."

March 1816

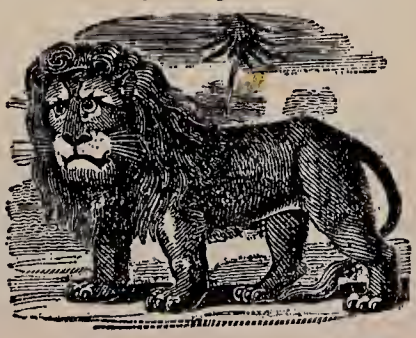
A SUPERSTITION ENDS

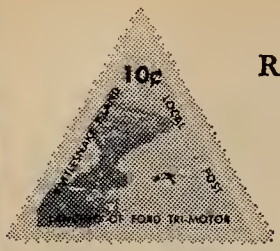
On April 15, 1718 all 24 churches of St. Pol de Leon in Brittany started ringing bells to keep away lightning. All were struck. The six churches whose bells were not ringing were not struck — thus ending a superstition.

CATTAIL HAIR CURLERS

On January 27, 1967 Mrs. William Cooley of Ada, Ohio (99 years old) recalled, as highlights of her childhood
(1) Barnum & Bailey's circus,
(2) Women in hoop skirts, and
(3) Hair-does called "waterfalls" made of artificial curls worn at the back of the head and neck. When the curls came out they were wrapped on cattails and boiled in hot water.

Courtesy — Mark Warren





RATTLESNAKE ISLAND'S LOCAL POST

■ THE TRIANGULAR stamp shown above is the one (of several different denominations) now being used for the transportation of U. S. Mail from Port Clinton, Ohio, to and from Rattlesnake Island, about 10 miles north, in the waters of Lake Erie. The island consists of some 85 acres, and boasts of an Executive Retreat, Yacht Harbor, Air Strips, Lodges, the Golden Pheasant Inn, and three permanent residents.

From 1845 to 1862 the U. S. Postal Service made no attempt to deliver mail to its patrons. The patron was required to go to the nearest Post Office to both deposit and pick up his mail.

Then a number of private companies were started throughout the country which, for a fee, would pick up and deliver to and from the patron's home or office. Most of the Local Post Companies issued stamps to indicate that the fee had been paid. These stamps are called Locals.

The Post Office at first appreciated the augmentation of its services by the local Posts but soon the private service was distinctly better than that of the Post Office and the competition was felt strongly. Over a period of 30 some years before the turn of the Century the battleground of the U. S. Postal Service and the Locals was in various courts. It was a continuing battle which many a Local temporarily won, only to lose later by a reduction in area and an operation below which he could profitably function.

Today the majority of the U. S. population takes for granted mail pick-up and delivery as one of its "inalienable rights." This is not the case. There are many underprivileged areas in this country, such as Bingham Canyon, Utah (pop. 15,000) and Shrub Oak, New York.

In 1952 Mr. Herman Herst, Jr. of Shrub Oak, New York noted Title 18 of the U. S. Code, which permits an individual to institute a Local Post service in areas to which the 1862 service of home and office delivery had not yet been extended. Mr. Herst's lawyer wrote to the Solicitor-General of the U. S. Post Office to see if the law was still valid. It was valid and the Shrub Oak Local Post was born. The U. S. insisted, naturally, that an official stamp be on the letter. The other requirements were that the local stamp should not be placed in the upper right hand corner where the official stamp belonged and that the cancelling device used to prevent reuse of the Local could not be similar to the official postal cancel.

Following the footsteps of Shrub Oak Local Post, several dozen local posts commenced operation. That on Rattlesnake Island was established August 27, 1966. The stamp (above right), designed for this service by Dr. J. P. Frackelton, served well until December 9. On that date, the Post Office Department ruled they were "too good" and could not enter the U. S. Mails. Even though U. S. stamps were on the same envelope, the Department maintained they might lead to confusion.

Accordingly, after obtaining approval for new triangular-shaped stamps from the Department (granted because triangulars are never used for U. S. postage), Dr. Frackelton and Henry Prokupek designed and printed new triangular-shaped Local Rattlesnake Island Post stamps (see above left). These were issued January 23, 1967, much to the delight of some 10,000 "first day" collectors and others. Service to the island is by a 1928 vintage Ford Trimotor Plane. The new postoffice waves a Rattlesnake Island flag. Mrs. Charles Busch, wife of its caretaker, is its Postmistress. Collectors should write to her, c/o Island Airlines, Port Clinton, Ohio.

Courtesy of J. P. Frackelton, M.D.

ORIGIN OF A SHRUNKEN HEAD

The amazing letter which follows was found among the papers of a friend of the Mr. Aglionby to whom it is addressed. This friend has explained that he was an humane and kindly person. Mr. H. Saxe Wyndham, who supplied the letter to the source from which we obtained it: viz The Countryman, April 1939, *was of the opinion that "the unfortunate aborigines of New Zealand were looked upon as an interesting kind of game."*

Sydney, New South Wales,
20th May, 1839

My dear Aglionby,

I have great pleasure in informing you that after considerable trouble and difficulty I have at last succeeded in procuring you a capital specimen of a New Zealander's head and as soon as it is well cured and properly dried I shall send it to you by the first ship that leaves this Colony, and I think that you will agree with me in considering it as a beautiful and curious ornament for the handsomest room in your house.

I fell in with the possessor of the head by the merest chance while proceeding from Sydney to South Cove, going through the plains with a party of Natives, and after a long chase we succeeded in bringing him down by a rifle shot, which fortunately did not injure any of the ornamental tatoos on his face, which I doubt not you will admire as much as I do.

If you would like his skin I have it drying and will send it to you the first opportunity. Some of the tatoos on it are exceedingly beautiful particularly on certain parts, but one figure has suffered a little by the ball having passed through it.

Let me know as soon you can the receipt of the head and tell me at the same time if you would like the head of a female as I shall have great pleasure in supplying you.

Believe me, My dear Aglionby,

Ever yours sincerely

I. W. Willis

The editors of The Countryman *questioned the accuracy of the New Zealander being shot "between Sydney and South Cove, Australia." Further research on their part turned up a descendant of a relative of Mr. Aglionby who stated that at the time of the shooting a number of Maoris had been taken to Australia. The editors also discovered that in the year 1831, the Governor of New South Wales prohibited the importation of heads into that territory.*

Courtesy, Dorothy Hinitt

AROUND THE ROUND TABLE at ROUND THYNG

by

ABRAHAM WEATHERWISE, W.M.

■ ROUND THYNG is the oldest weather observation station in America. The first successful weather observer on the American continent used it as early as 1131 A.D. This observer, Chief Knows-Rain, never failed. He would place one of his braves on the HIGH ROCK at ROUND THYNG and instruct him not to return until he could see or feel rain approaching. The Chief would then tell his tribe that upon the approach of his brave from High Rock, it could expect rain. That quite a few braves perished on High Rock waiting for rain is a matter of hieroglyphic record.

I was honored in the Spring of 1967 to be invited to Round Thyng. The invitation stated a World Weather Conference would be held there April 13-17, 1967. Ponchos, sleeping bags, cooking utensils, sourdough, insect deterrents, and water canteens had to be brought by each conferee, but free transportation by mule-back would be furnished by the management from the old freight siding near the Thyngs Mills Hide and Leather Company. We were told the ride in, with good luck, would take about five hours. The purpose of this Conference would be to provide the International Meteorological Seminar at Geneva in May 1967 with an adequate, accurate, scientific basis for long-range weather forecasting.

Needless to say, about half of us invited guests were dead by the time we arrived there. My old friend, One-Eyed Bill Smith, was the first to greet me.

"Hello, Abe. You made it, huh? Why in ——— they had to hold this thing here instead of at my old Thyng's Mill Camping Ground is beyond me. Round Thyng ain't half so good as Little Thyng or Big Thyng — you know that."

"Never mind," I replied, always one to humor rather than cross him. "We got things to talk about — just you and me."

Registration Day, what with everyone running around to find a soft spot for his sleeping bag on rocky Round Thyng and learning the difference between the conferees' real aud stage names, must have looked to an outsider like Old Home Day at Antville.

The Conference was called to order on the second day (April 14) by Elisha Bitgood from the top of High Rock at sunrise with an Alpine yodel and the rattling of Elisha's bones in the cold morning air. Always one to get his forecast in ahead of everybody else, he awoke nearly all of us with these stentorian words.

"Hear ye, hear ye, all ye upstate, outstate, downstate, and instate weather dogs — the only way to tell what the weather is going to be is to look at it just before the Summer turns to the Fall. If she's sort of clinging and warm —"

Nobody heard another word he said. He had collapsed.

Among those present still alive was Mr. Weatherbee of WBZ-TV . . . also known as Don Kent. He explained he had come by boat. As none of us could see a river or lake or even an ocean near Round Thyng, we asked him about that. His formal announcement was —

"I have an allergy to mules." And then he added. "No sense in my hanging around here. When last January came in with only ½" of snow, I knew my theory to be the best. Way back in the 40s I told — and it is a matter of record — the Longmeadow (Mass.) Maternal Association that 'weather prediction is the biggest guessing game in the world.'"

After that announcement, astounded by the rise of waters (on which Don sailed away) around High Rock, F. W. Reichelderfer of the U. S. Weather Bureau, suggested to the Chairman that the Conference be abandoned altogether for at least one day. When somebody explained to him that the Chairman had unfortunately drowned, he mounted the podium on High Rock and gave forth the

following to the few of us who were curious enough to listen.

"Some day in the future, the five-day forecasts preseutly issued by the U. S. Weather Bureau, will become forty-day forecasts."

Somebody asked him how or why or when, but all he replied was, "By larger financial grants from the Congress — that's how and why."

Our little group then suggested he put this in writing to be forwarded to Geneva as the best suggestion so far to come from this important Conference. This he did.

April 16 dawned with a rosy hue for all except the few who still didn't believe Don Kent's miracle of the day before. One of these was none other than the Countryman, also known as Haydn S. Pearson. After his breakfast of sourdough and the special pickles from his home-made New Hampshire pickle barrel, he had been seen to wander off with his telescope into some nearby brush. As everyone thought this was just early moruing routine, they gave it not another thought. But, by eleven o'clock, when he had not returned, we began to wonder. We looked in the thicket. He wasn't there. But we could see him far down in the valley near a stone-wall. With him were Irving Sanders of Brewster, New York and Monsieur M. K. Dublin from Weston, Connecticut. At about two-thirty in the afternoon all three returned to the Conference. "Well, gentlemen," our huffy new Chairman asked them, "after having most of yesterday off, I had expected you would attend our meeting today. What is the explanation?"

"You can tell Geneva," quoth Haydn, "that the chipmunks were all carrying their tails at a 90-degree angle today — so next winter will be normal."

"I disagree," interrupted Irving Saunders. "He is wrong. The reddish brown band of the woolly caterpillar we saw this morning was much wider than usual. That means a mild winter for sure."

"Bosh," exclaimed Dubliu. "I heard a katydid singing real loud this morning down by that wall when we were there. Don't you realize what that means, gentlemen? It means that six weeks and one day from today winter will begin. That will be June second. Why, this is hardly before the present winter will be over!"

After that, the Chairman was not able to bring the meeting to order at all. So, without a vote — or anyone hearing him — he recessed it until Campfire Song Hour (8:00 P.M.).

Ernest G. Knights (whom only a few had recognized as my old friend One-Eyed Bill Smith) turned out to be the leader of the Campfire Song Hour that evening. With him at the Round Table were Irving G. Krick, Roger Babson, and Howard Miller. The last-named had blown in on the Wind from Chicago. Knights immediately announced the Hour, as usual, would be devoted to singing. He added that inasmuch as the purpose of this Conference was to contribute long range forecasting formulas to the International Seminar at Geneva, the first number would be a duet by Ernest G. Vennor, Republican, and Irving G. Krick, Democrat. He explained at some length (too much length, I felt) how it was that all long-range forecasts grew out of noticing each spring the harmony or disharmony between this nation's two great politieal parties.

Opening his secret and confidential barometer book, Mr. Krick then began —

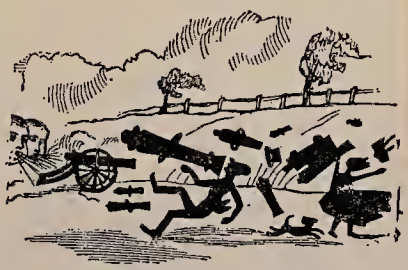
"Well, I'll take the high notes, and you'll take the low notes, then we'll all bring the rains in together . . ."

Jerome Namais, Chief of the Long Range Forecasting Division of the U. S. Weather Bureau, objected. Knights had to recognize him.

"The singer is out of order. His song is a direct steal from 'There's a long, long trail a-winding.'"

Whereupon all the conferees immediately drowned him out with the next line — "Unto the land of my dreams" and so on until they had finished the entire song.

When order was restored, Krick insisted his song was better. After all, hadn't he predicted D-Day weather for Eisenhower's Iuvasion with it? And "Don't I



It was blowing great guns.

Don Kent sailed away.

collect huge fees for singing it all over the world?"

Whereupon Henry Ward, Treasurer of the American Meteorological Society, rose to his feet with a motion.

"Moved we throw Krick out of this meeting on the grounds that any mention of (or taking of) fees for long range forecasting is not only commercial but unethical."

It was duly seconded and so voted — but Krick did not leave; nor did anyone try to throw him out.

Vennor then took the floor.

"As a good Republican, I will now ask Mr. Krick to join me in 'Hallelujah, Hallelujah — Happy Days Are Here Again.'"

So Krick did. Those of us who were not tone deaf joined in with our particular political party sides and some followed Krick's "Long Long Trail" and others followed Vennor's "Oh, What a Beautiful Morning."

Knights then explained at length (again at too much length, I felt) that one could also determine weather in advance by the harmony or disharmony between the residents of Massachusetts and those of Maine. Whereupon he called upon Charles F. Brooks of Milton, Massachusetts, and Charles W. Curtis of Searsport, Maine.

Curtis began first. "Way up the river, it will snow . . . snow . . . snow . . ."

"Bauer . . . Bauer . . . Bauer . . ." Brooks interjected, twirling his dewpoint thermometer to keep the rhythm.

The harmony was surprisingly good, Knights announced afterwards. The Campfire Hour was adjourned with the recommendation that Geneva should note the date of the first snowstorm, add to it the age of the moon on that date, and the result would be the number of snowstorms during the following winter.

It was a good thing that the next day was the final one. Just about everybody was down to his last cupful of sourdough and quite a few were beginning to complain that Spring at Round Thyng was far worse than any Winter ever known at Medicine Hat.

G. L. Christiansen of Indio, California, tried to get the floor first thing that final morning with his herd of turtles. Henry Boon of London, England, with his gnats and swallows, disputed that move with one of his own. Helen Frobisch of Caribou, Maine waved both away with her grandmother's shadow. Chairman Hurd Willett, Chief of Meteorological Research at the Massachusetts Institute of Technology, took the chair. Much to the delight of all present, he declared himself as Chairman of the Conference. Up to then nobody had known just who was Chairman.

First, he declared that inasmuch as the public was beginning to take exception to the infallibility of weather forecasts in general and had already indicted Kenneth C. T. Cheng of Taiwan for predicting a typhoon which never came (Cheng arose, took a bow, received applause) and C. B. Pooshalong, Head Priest of the Temple of Pakistan, had been thrown out of office for not being able to see the Paschal new moon (Pooshalong had mislaid his glasses and still couldn't find them), he, Willett, was having erected here at High Rock, for all to see, a huge marble slab on which would be chiseled some of the weather theories which had failed to materialize since the winter meeting at Medicine Hat held at the peak of the Sunspot Cycle in 1946. Parchment copies of the plaque were then distributed to all members. These read as follows:

"Resolved, that inasmuch as the Baxter theory proclaimed that by now in 1966 palm trees would be growing in Greenland aud many Floridians, as a result, bought land at high prices in Nova Scotia, Newfoundland, and Labrador, as well as Greenland, this group declares the Baxter theory was and always will be wrong and takes no responsibility therefor."

As Willett read this first paragraph, W. C. Ewert tried to amend it by adding that grandpa's snowstorms were never as old-fashioned as those in 1966, but a member of the Society of the Survivors of the Blizzard of 1888 objected and it failed to pass.

The Countryman.

"Resolved, that the Abbott theory that one can make accurate weather forecasts fifty years in advance by correlations between solar and temperature changes, be set aside until our next meeting. The reason is that these forecasts take too much paper work and nobody lives for the fifty years needed to verify these, except Mr. Abbott."

Applause. Bow by Mr. Abbott.

"Resolved, that one Hal Borland of the **New York Times** and **Berkshire Eagle** be censured for his erroneous statement in 1941 that 'Winter will be winter.' Since his statement, there have been several winters that were summer, and several summers that were winter."

More applause. No bow by Mr. Borland. He was furious.

"Resolved, that Professor Vainor Auer of Helsinki be cautioned about any more forecasts of droughts or volcanic eruptions coming out of low ocean levels around South America, as such forecasts do not improve Latin American relations."

The meeting was then recessed while members discussed the advisability of adding to this resolution another one which would prevent Richard Nixon and/or Robert Kennedy from going to South America at all. In the meanwhile, a parade, with banners reading "Let's keep the Gulf Stream where it is," began and another group followed it proclaiming "Ice cubes and Iodides for Hurricane Control."

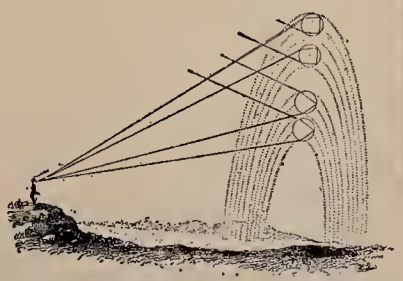
Chairman Willett restored order by hoisting not one, but two, red Hurricane Warning Balls up the pole on High Rock to just below Old Glory.

He then introduced, as the last speaker of the Conference, Dr. Edward Teller, renowned atomic scientist. As Dr. Teller, in cap and gown, took the podium, you could hear a pin drop. Before him, as he began his speech, he held a huge black bomb, the white fuse from which dangled perilously near his lighted cigarette.

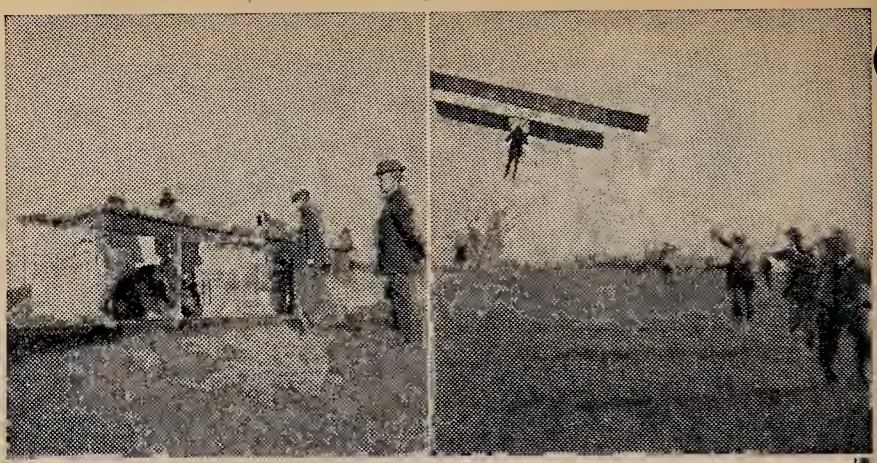
"Gentlemen," he began, "I will now demonstrate for the benefit of the Geneva International Meteorological Conference next month how it is by the simple method of blowing off mountain tops — and the redirection of ocean currents and hurricanes — we can . . ."

The exodus from High Rock and Round Thyng made the march of the Israelites into the wilderness look like a parade of wooden soldiers. I didn't even have to run or walk or crawl. I was swept back with the crowd to the Thyngs Mills Hide and Leather Company in less than one-tenth the time it had taken me to ride in from there. At the freight siding nobody even waited for the train to start. When it did, you could see members, still running, for miles down the track ahead of the engine.

Quite honestly, I don't know what happened at High Rock after we left or whatever did become of Dr. Teller and his bomb. I have heard reports, however, that the sun has been setting in recent months about four degrees to the east of the Rock — whereas when we were there it had been setting four degrees to the west of it. The International Meteorological Seminar at Geneva, as this article went to press, was still wrangling about, and deeply bogged down in, discussions of whether the Russians or ourselves would control the light or the dark of the moon and how much, if anything, the Congress should ask the U.N. to contribute for weather research and an International Weather Bureau on Jupiter. . . THE END



Four degrees to the East?



The above shows the author's grandfather (right) in flight in a homemade kite (left) in 1910.

THE KITES CAME FIRST

by Malcolm M. Ferguson

■ KITES have been a familiar part of our country scene for more than a couple of centuries. Around New England, these were apt to be diamond-shaped, or perhaps with the head rounded off. They are sprung or bowed slightly to catch the wind, and are sometimes called bow-kites for this reason. This diamond kite is of ancient origin, and is the kind you'll see under "K" in the old spelling books, or to give action to the 1790-vintage vignettes by that remarkable British countryman Thomas Bewick, who set the style for American wood-engravers and almanac-illustrators.

Kites caught my imagination for an added reason: my grandfather went up in one, and a photo of him thus suspended made the combination of toy and experiment appealing to me. This element of adventure was present, too, when Ben Franklin and son sent their kite up into a thundercloud in a Promethean experiment to see whether the wet string would carry that mysterious force, electricity. It did, but in an obligingly small dose, so that the Franklins, beloved of the gods, lived to stir the hearts of their countrymen.

The kite's slender string was a most necessary lifeline to earth for flying man, or **homo volans,** just as the umbilical link still is necessary for astronauts. When there's a string attached, it's a kite, not a glider; and that is what Alexander Graham Bell sent Lt. Thomas Selfridge up in — a glider-shaped kite — in 1907. So it is quite clear that through kites the thoughts and daydreams of kids and their elders go back in years beyond the free-soaring gliders, the Wright Brothers, the magnificent men in their flying machines, the aeronauts, and the astronauts.

Clearly, a motionless, hovering gull weighs more than the air it displaces — yet it is held up. The significance of what has come to be called streamlining was recognized a century ago by an English-born Unitarian minister, Samuel Robert Calthrop, who introduced the crew-racing shells — America's first intercollegiate sport — for Harvard in 1852. In the late 1860s he patented a streamlined train. In racing shells the slip stream is critically important, but in the locomotives of the period it was inconsequential. Such random efforts, measured in terms of the history of flight, were definitely cumulative.

It wasn't until the 1920s and '30s that the complex nature of the air-foil was understood; previous efforts had been on a trial and error basis. This is the way it is explained by architect-designer Norman Bel Geddes, in his book, **Horizons:** "An object is **airfoiled** when its exterior surface is so designed that upon being projected through the air, a useful dynamic reaction is imparted to the object by the action of the air. The lift of an airplane wing is an excellent example of a useful dynamic reaction."

Curiously, the answer was available in the 19th Century. Ask a few airmen today and they will explain it all with drawings and distinctive hand gestures. The basic theory, they will tell you, was ex-

pounded by a member of a family of Swiss mathematicians, Daniel Bernouili, in a 1738 book, **Hydrodynamica.** It boils down to this: arch the top of a plane wing, but make the bottom flat. The air flows more quickly beneath the wing, more slowly above. It is assuring to know that argument and airplane alike are now sustained by mathematics and wind tunnel evidence.

With innocence of such matters in the 1890s, the question arose, what size and shape of kite would have a good enough lift-to-drag ratio to get a man up in the air? Remember, these were backyard experiments. These people — in the United States, Germany, France, Australia — were wondering, just as Leonardo da Vinci did around the year 1500, if the flying man should flap the mechanical wings of this bird-machine, or ornithopter. As a result, experimenters from that period on were bedeviled with the alternatives of remaining quiet during their brief flight, or engaging in some jumping-jack exercise which would somehow translate into a flight-sustaining force.

It is not clear when the first man went up in a kite. It was not my grandfather in 1910, certainly. Perhaps it was an Oriental a couple of thousand years ago, for they have been flying them that long. Kite experiments were never confined to getting a man aloft, but simply in seeing what would fly under various conditions. Thus, the box-kite was invented by an Australian named Lawrence Hargrave in 1893. This is the second most popular kite configuration. It is rectangular with open square ends, the paper or cloth going around the sides of the rectangle, but leaving a middle for the air to flow in. This kite does not need a tail like the diamond kite, since there's an axial alignment to restrain it from yawing and losing its wind.

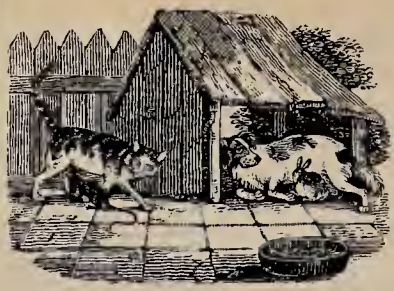
Kite paper is smooth, tough, and light. Silk is used, too, since it is light, flexible, and doesn't let the wind through. My daughter Betsy and I tried a store-boughten rubbery plastic kite last summer out at the Isles of Shoals. This kite was bat-shaped, and its surface rippled with the back edge of the batwing flapping slightly, which is supposed to be good, aerodynamically. This kite has a keel instead of a tail, and the string is hitched to it. What with the Isles of Shoals nine miles out in the ocean off Portsmouth, New Hampshire, one can count on a good breeze and few obstacles. The first trial we put out half a mile of string as the kite rose over Star Island and then across the cove to Appledore. The second try took the kite up and off to White Island. It was interesting to watch as it went straight up in the air that was to an extent held to the island, and then broke out over the ocean, and finally up again over the other island with its lighthouse. Before we were done we had let out literally a mile of kite-string, and the line was running almost parallel with the surface of the water. We could see the kite, which was well away from where we lost sight of the string.

We were not particularly disappointed to learn that we had set no record, but were interested to learn that experiments using piano wire and a string of kites had run out to a distance of 10 miles. Our kite twine was inexpensive, strong, and offered less aerodynamic drag than thicker piano wire.

There is currently a good deal of kite activity, though it takes open spaces, and is not a city game. About one out of every four or five issues of the Patent Office Gazette lists a new kite device, some being hardly better than a kid's day-dream of, say, inexpensively casting a fishline where you could not otherwise, or getting lead-strings across bottomless gorges to start bridge-building. Nevertheless, valid meteorological experiments go back to a decade before Franklin's adventure.

Notable among current activities is development of a "parafoil" which combines kite, parachute, and airfoil, which means: it can be controlled from the ground like a kite; it can be used as a fall-breaking device just as parachutes have been since early ballooning days — in turn, two centuries after da Vinci's sketch; it has manipulable devices which by remote radio control can alter the wing-shaped structure's characteristics. Its inventor is Domina Jalbert of Boca Raton, Florida. The possibilities include positioning cargoes in air-drops of up to 500 pounds, and effecting airplane pickups from ship installations.

If these are too advanced applications, perhaps you can either find the store in New York City (where else?) which specializes in kite supplies, or maybe you might wish to join the International Kitefliers Association (81 Seaview Avenue, Premium Point, N. Y.). But then, it isn't necessary to join anything or seek sophisticated gear. Possibly you may wish to get yourself sponsored, however, by one or more kids. It's more fun that way!



OLD-FASHIONED PUZZLES

(For answers, see page 120)

I

A monkey and his uncle are suspended at equal distances from the floor at opposite ends of a rope which passes through a pulley. The rope weighs 4 ounces per foot. The weight of the monkey in pounds equals the age of the monkey's uncle in years. The age of the uncle plus that of the monkey equals 4 years. The uncle is twice as old as the monkey was when the uncle was half as old as the monkey will be when the monkey is three times as old as the uncle was when the uncle was three times as old as the monkey was. The weight of the rope plus the weight of the monkey's uncle is one-half again as much as the difference between the weight of the monkey and that of the uncle plus the weight of the monkey. How long is the rope? How old is the monkey? (*courtesy of Sydney H. Batchelder of N. H.*)

II

If a clock-calendar that is on a correct setting on January 1, 1968 is not re-set at the end of any month with less than 31 days, when will the clock-calendar be again correct? (*courtesy of Kelly C. McClure of W. Va.*)

III

Many years ago, seven traveling gentlemen met by chance at a certain inn where they were so well pleased with their host and each other's company that, in a frolic, they offered the host $30 if they could stay at the inn as long as they, together with him, could sit every day at dinner in a different order. The host, thinking that they could not sit in many different positions because there were but few of them and that he, himself, would make no considerable alteration, he being but one, imagined that he would make a good bargain as well as be agreeable to his guests. Therefore, he agreed, and so made himself the eighth person. How long did the seven gentlemen stay — and how many different positions did they sit in? (*courtesy of Henry R. Palmer, Jr. of Conn.*)

IV

What is the root of this squared square cube: 10279563944029090291760390873856? (*courtesy of Thomas Kilworth of Conn.*)

V

A crescent-shaped area has for its outer boundary a semi-circle of radius one foot and for its inner boundary a quadrant of a larger circle. What is the area of the crescent, in square feet? (*courtesy of Theodore W. Gilson of Va.*)

VI

Five ladies, each accompanied by her daughter, bought cloth at the same store. Each of the ten paid as many cents per foot as she bought feet, and each mother spent $4.05 more than her own daughter. Mrs. Robinson spent $2.88 more than Mrs. Evans, who spent about a quarter as much as Mrs. Jones. Mrs. Smith spent the most of all. Mrs. Brown bought 21 yards more than Bessie, one of the girls. Annie bought 16 yards more than Mary and spent $29.12 more than Emily. The Christian name of the other girl was Ada. What was her surname? (*courtesy of Sydney H. Batchelder of N. H.*)

VII

In a recent holdup, a bullet struck the face of a clock, hitting the exact center of the dial, driving the post of the hour and minute hands through the works and instantly stopping the clock. The hands were fixed in a straight line. It is assumed that the hands spun about after being welded together by the bullet. Assume that the second hand was running in perfect coordination with the minute and hour hands. At what time was the clock stopped if the second hand was on fifty? (*courtesy of B. H. Stanley of N. D.*)

CHARADES, REBUSES, CONUNDRUMS, ENIGMAS, etc.

(For answers, see page 120)

I

My first, if you do, you won't hit it;
My next, if you do, you won't leave it;
My whole, if you do, you won't guess it.

II

I am composed of 19 letters.
My 1, 8, 3, and 3, and 2—your motto these must be;
10, 11, 14, 16, 9, and 12 you'll seldom see.
For my 19, 17, 7, 4, how mournful is the sigh!
My 10, 3, 15, 6, and 12—these show a storm is nigh.
In my 3, 4, 13, 1 and 5, for the theme I pray you look;
Slip in my 18, then my **whole**; you'll know it like a book.

III

IV

What word is there of five letters that, by taking two away, leaves one?

V

If a bird were sitting on a peach in an orchard and you wanted that peach, how would you procure it without disturbing the bird in any way?

VI

Let those who have skill to make clear;
Now try to discover my name;
Four brothers I have, and the fifth I appear,
But our age is exactly the same.
Yet I to their stature shall never attain,
Though as fast as them always I grow,
By nature I'm destined a dwarf to remain—
So my riddle you'll easily know.

VII

We are little airy creatures
All of different voice and features;
One of us in glass is set;
One of us you'll find in a jet;
One of us is set in tin;
And the fourth a box is in.
If the last you should pursue,
It will never fly from you.

VIII

What is it that occurs once in a minute, twice in a moment, and once in a thousand years?

IX

X

I am composed of 5 letters.
My 4, 1, 2, 3, 5, is found adjacent to oceans, rivers, and lakes.
My 4, 1, 5, is a personal pronoun.
My 4, 1, 2, 5, is an article worn by many persons.
My 1, 2, 5, is an implement used by the farmer.
My whole is the name of a useful animal.

XI

I am composed of 7 letters.
Did you ever hunt my 5, 3, 7, 6?
My **whole** is often my 1, 2, 4.
My 1, 3, 4, 2, 7, we could not live without.
My 4, 5, 3, 1 comes in spring.

XII

What letter in the alphabet is most useful to a deaf woman?

XIII

XIV

What letter clothes a boy?
What letter once brought gloom into the home of all men?
What letter makes the truth lucid?
What letter extends skill by two wheels?
What letter changes a tree into mincemeat?

DAYS LUCKY OR UNLUCKY

On the right-hand calendar pages (25-47) of this Almanack will be noted occasional entries with regard to certain unlucky days of the year. Sometimes these notations arise from superstitions related to the angles various planets are making with each other; others from various superstitions of the ancients. In 1841, at London, one John Brand, a Fellow and Secretary of the Society of Antiquaries, and Sir Henry Ellis, Librarian of the British Museum, published two books entitled **Observations on Popular Antiquities.** The following text is made up of excerpts taken from a chapter in the second of these two books, of the above title:

"Those observers of time are to be laught at that will not goe out of their house before they have had counsell of their Almanacke, and will rather have the house fall on their heads than stirre if they note some natural effect about the motion of the aire, which they suppose will varie the lucky blasts of the Starres, that will not marry, or traffique or doe the like but under some constellation. These, sure are no Christians: because faithfull men ought not to doubt that the Divine Providence from any part of the world, or from any time whatsoever, is absent. Therefore we should not impute any secular businesse to the power of the Starres, but to know that all things are disposed by the arbitrement of the King of Kings. The Christian faith is violated when, so like a pagan and apostate, any man doth observe those days which are called Aegyptiaci, or the calends of Januarie, or any moneth, or day, or time, or yeere, eyther to travell, marry, or to doe any thing in."

Melton's Astrologaster

"The perillous days of every month are to be accounted for in this manner. In the change of every moon be two Dayes, in the which what thing soever is begun, late or never, it shall come to no good end, and the dayes be full perillous for many things. In January, when the moon is three or four days old. In February, 5 or 7. In March, 6 or 7. In April, 5 or 8. May, 8 or 9. June, 5 or 15. July, 3 or 13. August, 8 or 13. September, 8 or 13. October, 5 or 12. November, 5 or 9. In December, 3 or 13.

"Astronomers say, that six Dayes of the year are perillous of death; and therefore they forbid men to let blood on them, or take any drink; that is to say, January the 3rd, July the 1st, October the 2nd, the last of April, August the 1st, the last day going out of December. These six Dayes with great diligence ought to be kept, but namely the latter three, for all the veins are then full. For then, whether man or beast be knit in them within seven days, or certainly within fourteen days, he shall die. And if they take any drinks within fifteene dayes, they shall die; and, if they eat any goose in these three Dayes, within forty days they shall die; and, if any child be born in these three latter Dayes, they shall die a wicked death.

"Astronomers and Astrolegers say, that in the beginning of March, the seventh Night, or the fourteenth day, let thee bloud of the right arm; and in the beginning of April, the eleventh Day, of the left arm; and in the end of May, third or fifth Day, on whether arm thou wilt; and thus, of all that year, thou shalt orderly be kept from the fever, the falling gout, the sister gout, and losse of thy sight."

Book of Knowledge

"Many persons have certain Days of the week and month on which they are particularly fortunate, and others in which they are as generally unlucky. These Days are different to

different persons. Mr. Aubrey has given several instances of both in divers persons. Some Days, however, are commonly deemed unlucky: among others, Friday labours under that opprobrium; and it is pretty generally held that no new work or enterprise should commence on that day. Likewise, respecting the weather there is this proverb:

'. . . . Friday's moon,
Come when it will, it comes too soon.' "

Grose

"In the opinion of the astronomers, these days are unlucky: January 1, 2, 4, 5, 10, 15, 17, 29, very unlucky. February 26, 27, 28, unlucky; 8, 10, 17, very unlucky. March 16, 17, 20, very unlucky. April 7, 8, 10, 20, unlucky; 16, 21, very unlucky. May 3, 6, unlucky; 7, 15, 20, very unlucky. June 10, 22, unlucky; 4, 8, very unlucky. July 15, 21, very unlucky. August 1, 29, 30, unlucky; 19, 20, very unlucky. September 3, 4, 21, 23, unlucky; 6, 7, very unlucky. October 4, 16, 24, unlucky; 6, very unlucky. November 5, 6, 29, 30, unlucky; 15, 20, very unlucky. December 15, 22, unlucky; 6, 7, 9, very unlucky."

Grafton's Chronicle, 1565

"Though I think no day amisse to undertake any good entertainment or businesse in hande, yet have I observed some, and no meane clerks, very cautionarie to forbeare these three Mundayes in the yeare, which I leave to thine owne consideration, either to use or refuse; viz., 1. The first Munday in April, which Day **Caine was born, and his brother Abel slaine.** 2. The second Munday in August, which Day **Sodome and Gomorrah were destroyed.** 3. The last Munday in December, which day **Judas was born,** that betrayed our Saviour Christ."

Burghley's Preceptes, 1636

"There is a list given of Lucky Days, which contains all the red letter saints' days of the Reformed English kalendar. We are also informed that there are other days in each month which 'are successful enough.' Thus —

'In January there are three, viz. 16, 18, 26.
In February there are four, viz. 10, 19, 27, 28.
In March there are two, viz. 14, 18.
In April there are three, viz. 13, 22, 27.
In May there are five, viz. 3, 5, 7, 11, 19.
In June there are four, viz. 10, 17, 20, 27.
In July there are six, viz. 1, 13, 19, 21, 27, 30.
In August there are three, viz. 3, 7, 9.
In September there are five, viz. 4, 8, 11, 15, 19.
In October there are three, viz. 1, 8, 13.
In November there are four, viz. 3, 9, 11, 15.
In December there are three, viz. 9, 13, 17,' "

Edward Peacock

"Regarders of times, as they are which will have one time more lucky than another: to be borne at one hower more unfortunate than at another: to take a journey or any other enterprize in hand, to be more dangerous or prosperous at one time than at another: as likewise **if such a festivall day fall upon such a day of the weeke, or such like, we shall have such a yeare following:** and many other such like vaine speculations, set downe by our Astrologians, having neither footing in God's Word, nor yet natural reason to support them; but being grounded onely upon the superstitious imagination of man's braine."

Mason's Anatomie of Sorcerie, 1612

PART THREE

Regional Forecasts

Thus far all the calculations (except for Page 19) in this Almanac have been for Boston. The following pages in this Part III will enable readers to adjust these calculations and weather forecasts for anywhere in the United States.

1. Boston — See Pages 24–46 and 90.
2. Northern New England — See Page 91.
3. Southern New England — See Page 92.
4. East — Except New England — See Page 93.
5. Midwest — See Page 96.
6. Great Plains — See Pages 102, 103.
7. Pacific Northwest — See Pages 102, 104.
8. South — See Pages 108, 109.

DIRECTIONS FOR USING REGIONAL FORECAST PAGES

Simple and easy directions for using the regional forecast pages which follow appear at the top of each of these pages. However, the following additional information which also applies to these pages should be carefully noted.

Weather Forecasts

The OFA has long been known for its "accurate" weather forecasts. In previous editions these have been made for Boston and New England only, with the proviso these could be used elsewhere by considering the weather as forecast would arrive one day earlier for each Time Zone west of Boston. This year, however, on pages 91–109 you will find separate weather forecasts for seven different regions besides Boston. In reading these forecasts please remember it is impossible today to predict (successfully) the weather for more than a day or two in advance. Every known scientific source for making these 18-months-in-advance forecasts (we go to press in June) has been used. We suggest they will be more useful as weather trends than for the pinpointing of any particular day's weather.

Sun Dials

The column headed "Sun Fast" (pages 24–46) is of primary use to sun dial enthusiasts. The figures therein tell how fast on each day the time indicated by a *properly adjusted and graduated* sun dial will be of the time indicated by a clock. On April 11 sun dial time in Boston will be 15 min. (+15) FAST of Eastern Standard Time (see page 30). The time difference between clock and sun dial time in other cities (see pages 91–108) will be found by subtracting the value of Key Letter I for that city from the Sun Fast time for Boston (given on pages 24–46). The value of Key Letter I for Pittsburgh (see page 93) is −35 min.. so sun dial time in Pittsburgh on April 11 will be 20 min. (+15 minus 35) SLOW of clock time.

Length of Day

The "Length of Day" for Boston (pages 24–46) tells how long the sun will be above the horizon. It is found by subtracting the time of sunrise from that of sunset for each locality. For other cities, see pages 91–108. For these, after you have determined sunrise and sunset times, subtract the one from the other and you have the length of day.

Moonrise and Moonset

For greater accuracy, include the Constant Additional Correction below.

Longitude of Place	58°–77°	77°–90°	90°–103°	103°–116°	116°–128°	128°–142°	142°–155°
Correction	m 0	m +1	m +2	m +3	m +4	m +5	m +6

BOSTON		PITTSBURGH (Longitude 80° 00′ W.)	
Moonrise (Apr. 11)	4.44 P.M., E.S.T.	Moonrise (Boston)	4.44 P.M.
Key Letter	I	Correction (I from page 93)	+.35
		Constant Additional Correction	+.01
		Moonrise (Pittsburgh)	5.20 P.M., E.S.T.
Moonset	4.27 A.M., E.S.T.	Moonset (Boston)	4.27 A.M.
Key Letter	J	Correction (J from page 93)	+.33
		Constant Additional Correction	+.01
		Moonset (Pittsburgh)	5.01 A.M., E.S.T.

Moon's Place and Age

The moon's place and age is contained on the left-hand Calendar Pages (24–46). This information applies without correction throughout the United States.

Risings and Settings of the Planets

The times of rising and setting of naked-eye planets, with the exception of Mercury, are given for Boston on pages 48–49. To convert these times to those of other localities (pages 91, 93, 96, 102, 108), follow the same procedure as that given on those pages for finding the times of sunrise and sunset.

Dawn and Dark

The approximate times dawn will break and dark descend are found by applying the length of twilight taken from the table below to the times of sunrise and sunset at any specific place. The latitude of the place (see pages 91, 93, 96, 102, 108) determines the column of the table below from which the length of twilight is to be selected.

BOSTON (Latitude 42° 22′ N.)		PITTSBURGH (Latitude 40° 26′ N.)	
Sunrise (Apr. 11)	5.09 A.M.	Sunrise (see page 93)	5.47 A.M.
Length of Twilight (Col. 3 of table)	1.33	Length of Twilight (Col. 3 of table)	1.33
Dawn breaks	3.36 A.M., E.S.T.	Dawn breaks	4.14 A.M., E.S.T.
Sunset	6.22 P.M.	Sunset (see page 93)	6.36 P.M.
Length of Twilight	1.33	Length of Twilight	1.33
Dark descends	7.55 P.M., E.S.T.	Dark descends	8.09 P.M., E.S.T.

LENGTH OF TWILIGHT

Subtract from time of sunrise for dawn.
Add to time of sunset for dark.

Latitude	25°N to 30°N	31°N to 36°N	37°N to 42°N	43°N to 47°N	48°N to 49°N
	h m	h m	h m	h m	h m
Jan. 1 to Apr. 11	1 20	1 26	1 33	1 42	1 50
Apr. 11 to May 3	1 23	1 28	1 39	1 51	2 04
May 3 to May 15	1 26	1 34	1 47	2 02	2 22
May 15 to May 26	1 29	1 38	1 52	2 13	2 42
May 26 to July 23	1 32	1 43	1 59	2 27	—
July 23 to Aug. 4	1 29	1 38	1 52	2 13	2 42
Aug. 4 to Aug. 15	1 26	1 34	1 47	2 02	2 22
Aug. 15 to Sept. 6	1 23	1 28	1 39	1 51	2 04
Sept. 6 to Dec. 31	1 20	1 26	1 33	1 42	1 50

DETERMINATION OF EARTHQUAKES

Note, in this Almanac, on right hand pages, 25-47, the dates when the moon [☾ runs high] or [☾ rides low]. Beginning with the date of the high is the most likely five day earthquake period in the northern hemisphere, with the low in the southern hemisphere. You will also find on these pages a moon on the Equator notation [☾ on Eq]. twice each month. At this time, in both hemispheres, is a two-day quake period.

Continued from page 90

Nov.: Avg. temp. normal 41.3°. Prec. 3.84″ (normal 4.14″). Snow 2.4″. A major coastal storm will come in from the northeast between the 21st and 30th. Another from the West shows up (10–13) with some snow. The one 3–5 is annoying but harmless.

Dec.: Avg. temp. 30.8° (normal 29.8°). Prec. 3.42″ (normal 3.99″). Snow 8″. First week clear, then (7–11) a cold storm with rain, sleet, and snow. The periods 14–16 and 19–21 are rain. The final storm (24–31) is a heavy snowstorm which tapers off with sleet or rain.

1. BOSTON WEATHER FORECAST

Verification Base: U.S.W.B. Station at Blue Hill, Mass.

THE YEAR (JAN. – DEC. 1968)

Boston's temperature this year is very close to normal, 48.2° — (normal is 48.4°). Precipitation is a normal 48.65″. The Christmas storm of 1967 (23–31) is a "whopper" — and so too is a blizzard during the last week in January. In February, the second week holds a northeast storm with snow — but the last week of that month has the cold, white-powder type. March 5 to 11 will bring a lot of snow. Between April 12 and 18 look for the year's worst storm. A violent thunderstorm is expected during the last week of April. In a cool August, the line storm between the 21st and 27th is no help — especially for tourists. Between September 19 and 25 a hurricane (or close to it) may come in from the Carolinas. The last week of November, 1968 has a major coastal storm in it, and the last week of December will keep a lot of people home for Christmas.

THE WINTER (NOV. 1967 – APRIL 1968)

With a slightly below-normal temperature of 33.17° (normal is 34.0°) and near normal precipitation of 24.28″ (normal is 24.82″), it would not seem that Boston has too much to worry about. However, a very cold January (22.3°) is indicated — and almost 20″ more of snow (total 76″) than normal (which is 57.2″). January and February will be more snowy than the other months. Month by month forecasts follow with the major storms indicated within each month.

Nov. 1967: Avg. temp. 40.3°. Rain 4″. Snow 2″. Storms may be expected during the first week and the last week, the latter bringing some snow.

Dec. 1967: Avg. temp. 29.8°. Prec. 3.71″. Snow 15″. The first few days of December will be stormy. It will not be entirely clear (7–14), but watch out for a "whopper" with rain and snow over Christmas (23–31).

Jan. 1968: Avg. temp. 22.3° (4° below normal). Prec. 4.36″. Snow 20″. Rain and snow (5–10), thaw with rain (18–23), possible blizzard (24–31). Only good week looks like the 11th through 17th.

Feb.: Avg. temp. 27.3°. Prec. 3.66″. Snow 20″. The second week (8–15) will bring a coastal, heavy, wet storm, whereas the last week (22–29) will carry a cold blizzard in from the West.

Mar.: Avg. temp. 34.7°. Prec. 4.42″. Snow 15″. This first storm (5–11) could be the heavy one and carry most (10″) of the snow. Of the other two (18–23) and (27–31), the final one will be the wettest.

Apr.: Avg. temp. 44.6° (1.6° above normal). Prec. 4.72″. Snow 4″. The snow will come between the 12th and 18th. This could be one of the year's worst storms. However, that of 5–8 will be really wet, and that of the 25–30 marked by at least one violent thunderstorm with high winds.

May: Avg. temp. 55.7° (normal 56.7°). Prec. 3.82″ (normal 3.5″). There will be four rainy spells (4–8), (11–17), (22–25), and (27–31). More rain will be in the first and last of these than in the other two.

June: Avg. temp. 67.4° (normal 65.4°). Rain 4.03″ (normal 3.41″). Two heavy rains — one between the 11th and 13th, and another between the 23rd and 28th. The second one will be heavier than the first.

July: Avg. temp. normal 71°. Rain normal 3.10″. Expect showers (1–3), (14–16), and (22–26). The last will carry more rain than the others. The only protracted rainy spell is from the 6th to 10th.

Aug.: Avg. temp. 66.2° (normal 69.2°). Rain 4.47″ (normal 4.04″). The shower 1–2 is not too heavy, that of 14–16 is not too bad. However, between the 6th and 11th it will be cold and uncomfortable in any summer cottage or camp. A so-called "line storm" is expected between the 21st and 27th — a real "humdinger."

Sept.: Avg. temp. 63.5° (normal 62.5°). Rain normal 4″. Spells of rain (2–5), (13–15), and (27–30). Hurricane or close to it between the 19th and 25th.

Oct.: Avg. temp. 53.3° (normal 52.3°). Rain 4.29″ (normal 3.82″). Four storms all about the same, (4–7), (12–15), (17–19), and (28–30). However, that between the 17th and 19th may be heavier than the other three.

Continued on page 89

Table for Adjusting Sun, Moon, Planet Times on Pages 24-46, 48

2.-3. NEW ENGLAND (EXCEPT BOSTON)

The times of sunrise, sunset, moonrise, moonset (pages 24–46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in New England except Boston. Note the Key Letter for any given day (pages 24–46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M. Key Letter N. Key Letter N for Presque Isle (last col. below) shows +4. So sunrise at Presque Isle will be 7:16 A.M. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

City	State	Latitude ° ′	Time Used	Key Letters A-D m	E-H m	I m	J-M m	N-Q m
Bridgeport	Conn.	41 10	EST	+13	+10	+ 9	+ 7	+ 4
Hartford-New Britain	Conn.	41 46	EST	+ 9	+ 7	+ 7	+ 6	+ 5
New Haven	Conn.	41 18	EST	+11	+ 9	+ 7	+ 6	+ 4
Norwalk-Stamford	Conn.	41 03	EST	+14	+11	+10	+ 8	+ 5
Waterbury-Meriden	Conn.	41 33	EST	+10	+ 8	+ 7	+ 6	+ 4
Augusta	Maine	44 19	EST	−12	− 7	− 5	− 3	+ 2
Bangor	Maine	44 48	EST	−18	−12	− 6	− 6	0
Eastport	Maine	44 56	EST	−26	−19	−16	−13	− 7
Ellsworth	Maine	44 30	EST	−19	−13	−16	−13	− 2
Portland	Maine	43 39	EST	− 8	− 5	− 3	− 2	+ 2
Presque Isle	Maine	46 40	EST	−29	−17	−13	− 7	+ 4
Brockton	Mass.	42 05	EST	+ 1	0	0	− 1	− 1
Fall River-N. Bedford	Mass.	41 42	EST	+ 3	+ 1	0	0	− 2
Lawrence-Lowell	Mass.	42 42	EST	− 1	0	+ 1	+ 1	+ 2
Pittsfield	Mass.	42 27	EST	+ 8	+ 9	+ 9	+ 9	+ 9
Springfield-Holyoke	Mass.	42 06	EST	+ 7	+ 6	+ 6	+ 6	+ 5
Worcester	Mass.	42 16	EST	+ 3	+ 3	+ 3	+ 3	+ 3
Berlin	N. H.	43 58	EST	− 8	− 3	0	+ 2	+ 8
Keene	N. H.	42 50	EST	+ 5	+ 6	+ 7	+ 8	+ 9
Manchester-Concord	N. H.	42 59	EST	− 1	+ 1	+ 2	+ 3	+ 4
Portsmouth	N. H.	43 10	EST	− 4	− 2	− 1	0	+ 1
Providence	R. I.	41 50	EST	+ 3	+ 3	+ 1	+ 1	0
Brattleboro	Vt.	42 50	EST	+ 3	+ 5	0	+ 1	+ 5
Burlington	Vt.	44 28	EST	+ 1	+ 6	+ 9	+11	+17
Rutland	Vt.	43 35	EST	+ 3	+ 6	+ 8	+ 9	+12
St. Johnsbury	Vt.	44 25	EST	− 4	+ 1	+ 4	+ 6	+12

2. NORTHERN NEW ENGLAND WEATHER FORECAST

Verification Base: Burlington, Vermont. However, this forecast has general reference to Maine, New Hampshire, and Vermont and should be adjusted to higher altitudes for the ski resorts.

THE YEAR (JAN.–DEC. 1968)

With normal temperature (44.6°), the North Country should be able to have its one day of spring again. Precipitation of 34″ is slightly below the normal 35.17″. Apart from storms of snow in the first and fourth weeks of November, 1967 — and the second and fourth weeks of December — a blizzard will come in January (24–31), 1968. Considerable snow is also in the two February storms (8–10 and 13–15). March will hold a near-blizzard (5–11), and April 12 to 18 the rainstorm of the year. August 21 through 27 has a bad storm of rain, as does September 19–24.

THE WINTER (NOV. 1967–APR. 1968)

With colder (especially January) temperature (26.3° versus a normal of 28.2°) and slightly higher than normal precipitation (12.91″ versus a normal of 12.58″), this area will receive just slightly less snow than its normal of 86″. However, the total will be over 80″ — and the skiing should be continuous and good from December through March.

Nov. 1967: Avg. temp. 35.9°. Prec. 2.66″. Snow 4″. Stormy first and last weeks, with snow end of month.

Dec. 1967: Avg. temp. 23.4°. Prec. 1.81″. Snow 18″. Two big storms (second and fourth weeks).

Jan. 1968: Avg. temp. 15.4° (2.8° below normal). Prec. 1.85″. Snow 20″ or more. Should be good skiing at higher elevations in this area all month. Snow 5–10. Blizzard 24–31.

Feb.: Avg. temp. 19.4°. Prec.

Continued next page

1.57". Snow 25". The storm which hits Boston hard during the second week (8–15) will be towards the first part of the week here. It will be followed by a second one the latter part of the week, at Burlington, which will carry more snow than the one during the 22nd to 29th.

Mar.: Avg. temp. 29.5°. Prec. 2.22". Snow 14". The storm 5–11 carries most of the snow in near-blizzard conditions. The other two (18–23 and 27–31) should not be too bad.

Apr.: Avg. temp. 44.3°. Prec. 2.93". Heavy rains (5–8). Storm of the year 12–18, but little if any snow. Heavy rains again, end of month.

May: Avg. temp. 54.5° (normal 55.1°). Rain 3.24" (normal 2.97"). Four rainy spells (4–8), (11–17), (22–25), and (27–31), with about twice as much rain in the first and last as in the other two.

June: Avg. temp. 66.8° (normal 64.8°). Rain 4.10" (normal 3.46"). Two heavy rainstorms — one between 11–13 and another 22–27. Bridal parents, however, should also consider tents for marriages between 6–8, 16–17, and on the 20th.

July: Avg. temp. normal 69.6°. Rain normal 3.61". Storm of rain (6–10), heavy showers (1–3), (14–16), and (22–26).

Aug.: Avg. temp. 64.3° (normal 67.3°). Rain 3.75" (normal 3.42"). Showers 1–2 and 14–16. Heavy rain 6–11. Bad storm 21–27.

Sept.: Avg. temp. 60.7° (normal 59.7°). Rain normal 3.33". Spells of rain (2–5), (13–15) and (27–30). Downpour between the 19th and 24th.

Oct.: Avg. temp. 49.9° (normal 48.9°). Rain 3.20" (normal 2.91"). Four normal rainstorms, all the same: (4–7), (12–15), (17–19), and (28–30).

Nov.: Avg. temp. normal 36.8°. Prec. 2.5" (normal 2.66"). Snow 6". Three storms — 3–5, 10–13, and 21–30. Of these, the last will be rough with snow, the middle one cold and blustery, the first one just a normal rain.

Dec.: Avg. temp. 24.4° (normal 23.4°). Prec. 1.70" (normal 1.95"). Snow 10". Not much good skiing until final week (24–31), when there will be a heavy snowstorm. Some snow will also fall between the 7th and 11th, but only sleet and rain seem to be in the other two storms (14–16 and 19–21).

3. SOUTHERN NEW ENGLAND WEATHER FORECAST

Verification Base: Providence, R. I. However, this forecast is meant to cover Cape Cod, most of Connecticut, and New York City — and even down to Washington, D. C. This area is affected by northeasterly storms, and some from the Carolinas or the Ohio "channel."

THE YEAR (JAN.–DEC. 1968)

Normal temperature of 50.5° will prevail but precipitation will be 41.71" — or 2.08" below normal (43.79"). The last week of December, 1967, will bring hazardous travel conditions, as will the last week of January, 1968. In April, between the 12th and 18th, a storm of hurricane proportions is expected. In August (21–27), a dangerous line storm precedes a possible hurricane between September 19 and 25. There is "trouble" between November 10 and 13 — and stay home for Christmas.

THE WINTER (NOV. 1967–APRIL 1968)

Winter temperature will be 36.1° which is just a little below normal (36.7°). Precipitation will be a bit higher — 20.58" (20.49" normal). Snow will be above normal (45" against 34" normal).

Nov. 1967: Avg. temp. 42.4°. Rain 3.39". No snow. Stormy first and last weeks.

Dec. 1967: Avg. temp. 31.4°. Prec. 3.25". Snow 5". Rain 1–3. Heavy storm with some snow last week.

Jan. 1968: Avg. temp. 25° (4.5° below normal). Prec. 3.84". Snow 15". Most of this snow will fall during the last week. Good skating first two weeks and skiing all month high elevations western Mass. and northern Conn.

Feb.: Avg. temp. 30.6°. Prec. 3.04". Snow 15". Most of this snow will fall in the second week (8–15) but there will be some, mixed with rain 22–29.

Continued next page

Mar.: Avg. temp. 37.7°. Prec. 3.72″. Snow 10″. The storm 5–11 will be the coldest and carry most of the snow. However, that of the 18th to 23rd will be the wettest.

Apr.: Avg. temp. 49.4° (1.9° above normal). Rain 4.34″. The rain will be heaviest 5–8, and the storm 12–18 near hurricane proportions. The last one (25–30) wet but not dangerous.

May: Avg. temp. 57° (normal 58°). Rain 3.32″ (normal 3.64″). As at Boston and Burlington, four rainy spells (4–8), (11–17), (22–25), and (27–31), with less rain in the middle two than in the first and last.

June: Avg. temp. 69° (normal 67°). Rain 3.41″ (normal 2.89″). Two New England-wide storms (11–13 and 23–27) will also hit this area hard. Garden and bridal parties may also need tents 6–10, 16–17 and the 20th.

July: Avg. temp. normal 72.6°. Rain normal 3.10″. Storm of rain 6–10; heavy showers 1–3, 14–16, and 22–26.

Aug.: Avg. temp. 67.5° (normal 70.7°). Rain 4.0″ (normal 3.59″). Shower (1–2); heavier shower (14–16); storm of rain (6–11). "Line storm" (21–27) with high winds — dangerous.

Sept.: Avg. temp. 64.8° (normal 63.8°). Rain normal 3.31″. Rainy spells (2–5), (13–15), and (27–30). Hurricane or heavy tropical storm between 19th and 24th.

Oct.: Avg. temp. 55° (normal 54°). Rain 3.35″ (normal 3.03″). Fairly heavy rain (17–19 — three other unexciting but wet ones (4–7), (12–15) and (28–30).

Nov.: Avg. temp. normal 43.4°. Rain 2.6″ (normal 3.3″). Three storm periods this month. The first (3–5) is no threat. The second (10–13) is not anything for small boats to be out in. The last one (21–30) is a cold, blustering, soaking northeaster.

Dec.: Avg. temp. 33.5° (normal 32.5°). Prec. 3.0″ (normal 3.5″). Snow 5″. Four storms are expected. The first (7–11) carries rain, sleet, and snow. Those of the 14–16 and 19–21 bring rain (the first more than the second). The last storm (24–31) will make Christmas travel difficult with its rain, sleet, and snow.

4. EASTERN STATES (EXCEPT NEW ENGLAND)

The times of sunrise, sunset, moonrise, moonset (pages 24–46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Eastern States, except New England. Note the Key Letter for any given day (pages 24–46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M., Key Letter N. Key Letter N for New York City (last col. below) shows +6. So sunrise New York City would be 7:18 A.M. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

City	State	Latitude °	′	Time Used	Key Letters A-D m	E-H m	I m	J-M m	N-Q m
Wilmington	Del.	39	45	EST	+27	+21	+18	+15	+ 9
Washington	D. C.	38	54	EST	+35	+28	+24	+20	+12
Baltimore	Md.	39	17	EST	+32	+26	+22	+19	+12
Hagerstown	Md.	39	40	EST	+36	+30	+27	+24	+17
Salisbury	Md.	38	25	EST	+31	+22	+18	+14	+ 5
Albany	N. Y.	42	39	EST	+10	+10	+11	+11	+12
Binghampton	N. Y.	42	06	EST	+20	+20	+19	+19	+18
Buffalo	N. Y.	43	00	EST	+26	+29	+31	+33	+37
New York	N. Y.	40	45	EST	+17	+13	+12	+10	+ 6
Ogdensburg	N. Y.	44	45	EST	+ 8	+15	+18	+21	+27
Syracuse	N. Y.	43	03	EST	+18	+20	+20	+21	+23
Atlantic City	N. J.	39	22	EST	+24	+17	+13	+10	+ 3
Camden	N. J.	39	57	EST	+24	+19	+16	+13	+ 8
Cape May	N. J.	39	05	EST	+27	+19	+15	+12	+ 4
Newark-Irvington-E. Orange	N. J.	40	44	EST	+18	+14	+12	+11	+ 7
Paterson	N. J.	40	55	EST	+17	+14	+12	+11	+ 7
Trenton	N. J.	40	13	EST	+21	+17	+15	+12	+ 7
Allentown-Bethlehem	Pa.	40	36	EST	+23	+19	+17	+15	+11
Erie	Pa.	42	07	EST	+37	+36	+36	+36	+35
Harrisburg	Pa.	40	16	EST	+30	+26	+23	+21	+16
Lancaster	Pa.	40	02	EST	+29	+24	+21	+18	+13
Philadelphia-Chester	Pa.	39	57	EST	+25	+20	+17	+14	+ 8
Pittsburgh-McKeesport	Pa.	40	26	EST	+42	+38	+35	+33	+29

Continued on next page

Continued from page 93

Reading	Pa.	40	20	EST	+26	+22	+19	+17	+12
Seranton-Wilkes Barre	Pa.	41	25	EST	+23	+20	+19	+18	+15
York	Pa.	39	58	EST	+31	+25	+23	+20	+14
Charlottesville	Va.	38	02	EST	+43	+34	+30	+25	+16
Danville	Va.	36	31	EST	+49	+38	+32	+26	+15
Norfolk	Va.	36	51	EST	+37	+27	+21	+15	+ 5
Richmond	Va.	37	32	EST	+40	+31	+25	+20	+11
Roanoke	Va.	37	16	EST	+51	+41	+35	+30	+20
Winchester	Va.	39	13	EST	+38	+32	+28	+25	+19
Charleston	W. Va.	38	21	EST	+54	+46	+42	+38	+30
Parkersburg	W. Va.	39	21	EST	+52	+45	+42	+38	+32

WEATHER FORECAST FOR THE EAST (EXCEPT NEW ENGLAND)

Verification Base: Pittsburgh, Pa. However, this forecast goes for upper New York, northern Pennsylvania, Ohio, northern New Jersey, and overlaps with that of southern New England for Washington, D. C., Virginia, Delaware, and West Virginia when the storms are from the west rather than south.

THE YEAR (JAN.–DEC. 1968)

Temperature will be normal, which is 49.8°. Precipitation is just a little down, 35.48" against the normal 36.0". Bad storms, with snow, come during the second week of December, 1967, the last week of January, 1968, and the second week of February. A dangerous storm of rain and wind happens between April 12 and 18 — also in two periods of June (11–13 and 20–22). The last week in November, 1968 has rain, sleet, and snow — and travel over Christmas will be hazardous.

THE WINTER (NOV. 1967–APRIL 1968)

Close to normal temperature of 38.1° versus 38.5° (normal), precipitation 16.98" (normal 16.74"), and 42" of snow against a normal of 35".

Nov. 1967: Avg. temp. 42.4°. Rain 2.23". Snow 2". Storm first week heavier than Boston, but lighter in last week (with snow).

Dec. 1967: Avg. temp. 33.7°. Prec. 2.48". Snow 8". Bad storms second week with some snow.

Jan. 1968: Avg. temp. 26.2° (3.7° below normal). Prec. 3.06". Snow 10". Almost all of this snow will come in during the last week. Other storms are minor.

Feb.: Avg. temp. 32.7°. Prec. 2.38". Snow 12". Heavy storm with snow latter part of second week, and one with more wind, but less snow, last week.

Mar.: Avg. temp. 40.1°. Prec. 3.40". Snow 10". The storm 5–11 will be the one of the year here, with the other two (18–23 and 27–31) heavy but not dangerous.

Apr.: Avg. temp. 53.2°. Rain 3.79". The storm between the 12th and 18th will be heavy, windy, wet, and dangerous. Rest of the month looks fine.

May: Avg. temp. 61.2° (normal 62.3°). Rain 3.55" (normal 3.25"). Storms and showers during the first week will bring lots of rain. From the 11th to the 17th, look for two separate storms with some clear weather between the two. Showery and wet 21–24, but heavy rains as the month ends.

June: Avg. temp. 73° (normal 70.8°). Rain 4.41" (normal 3.73"). Nothing much to worry about except between the 11th and 13th and the 23rd to 27th, when it will rain cats and dogs.

July: Avg. temp. normal 74.8°. Rain normal 4.0". Almost half of this rain comes in 6–10. Showers (1–3), (14–16), and a heavy one (23–26).

Aug.: Avg. temp. 70° (normal 73°). Rain 3.5" (normal 3.16"). Warm storms (5–11 and 21–27).

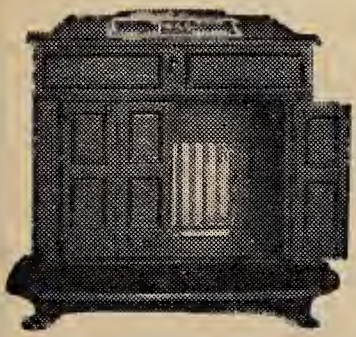
Sept.: Avg. temp. 67.8° (normal 66.8°). Rain normal 2.56". Storms of rain (2–5), (13–15), (19–25), and (27–30). The third will be the heaviest.

Oct.: Avg. temp. 56.4° (normal 55.4°). Rain 2.70" (normal 2.47"). Four spells of rain — all about the same — (4–7), (12–15), (17–19) and (28–30).

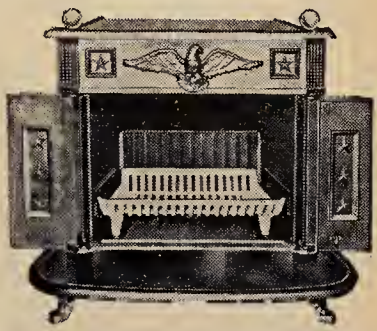
Nov.: Avg. temp. normal 43.4°. Prec. 3.5" (normal 2.2"). Snow 3.5". Drizzles some 3–5. Between the 10th and 13th — and again between the 21st and 30th — expect cold heavy rain, some sleet, and some snow.

Dec.: Avg. temp. 34.7° (normal 33.7°). Prec. 2.30" (normal 2.67"). Four storms this month all of about equal intensity: (7–11), (14–16), (19–21), (24–31). Some snow and sleet will accompany the first and last. Christmas travel will be hazardous.

WHEN THINKING OF FRANKLIN STOVES · · · CONSULT PRESTON Distributing Co.



VARIOUS STYLES & SIZES IN STOCK



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5. MIDWESTERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24–46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Midwest. Note the Key Letter for any given day (pages 24–46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min. for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M., Key Letter N. Key Letter N for Chicago (last col. below) shows +4. So sunrise at Chicago will be 7:16 A.M., CST. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

City	State	Latitude ° ′	Time Used	Key Letters A-D m	E-H m	I m	J-M m	N-Q m
Cairo	Ill.	37 05	CST	+30	+18	+12	+ 7	− 5
Chicago-Oak Park	Ill.	41 52	CST	+ 7	+ 6	+ 5	+ 5	+ 4
Danville	Ill.	40 07	CST	+13	+ 8	+ 5	+ 3	− 2
Decatur	Ill.	39 51	CST	+20	+14	+12	+ 9	+ 3
E. St. Louis	Ill.	38 38	CST	+29	+21	+17	+12	+ 4
Peoria	Ill.	40 42	CST	+20	+16	+14	+12	+ 7
Rockford	Ill.	42 17	CST	+12	+12	+12	+12	+12
Springfield	Ill.	39 48	CST	+23	+17	+14	+12	+ 6
Fort Wayne	Ind.	41 04	EST	+61	+58	+56	+55	+52
Gary	Ind.	41 36	CST	+ 7	+ 6	+ 5	+ 4	+ 2
Indianapolis	Ind.	39 46	EST	+69	+63	+60	+57	+52
Muncie	Ind.	40 11	EST	+65	+60	+57	+55	+50
South Bend	Ind.	41 41	CST	+ 3	+ 2	+ 1	0	− 2
Terre Haute	Ind.	39 28	CST	+15	+ 8	+ 5	+ 2	− 5
Council Bluffs	Iowa	41 16	CST	+43	+40	+39	+38	+35
Davenport	Iowa	41 31	CST	+21	+19	+18	+17	+15
Des Moines	Iowa	41 35	CST	+33	+31	+30	+29	+27
Dubuque	Iowa	42 30	CST	+18	+18	+18	+19	+19
Sioux City	Iowa	42 30	CST	+41	+41	+41	+41	+42
Waterloo	Iowa	42 29	CST	+25	+25	+25	+25	+26
Fort Scott	Kans.	37 55	CST	+49	+39	+34	+30	+20
Liberal	Kans.	37 03	CST	+77	+65	+60	+54	+42
Oakley	Kans.	39 07	MST	+10	+ 3	− 1	− 4	−12
Salina	Kans.	38 53	CST	+58	+50	+46	+42	+34
Topeka	Kans.	39 03	CST	+49	+42	+38	+35	+27
Wichita	Kans.	37 42	CST	+60	+50	+45	+40	+30
Cheboygan	Mich.	45 40	EST	+41	+50	+54	+57	+66
Detroit-Dearborn	Mich.	42 20	EST	+48	+48	+48	+48	+48
Flint	Mich.	43 01	EST	+48	+50	+51	+51	+53
Grand Rapids	Mich.	42 58	EST	+56	+58	+58	+59	+61
Ironwood	Mich.	46 40	CST	0	+11	+16	+21	+32
Jackson	Mich.	42 15	EST	+54	+53	+53	+53	+53
Kalamazoo	Mich.	42 17	EST	+58	+58	+58	+58	+58
Lansing	Mich.	42 44	EST	+53	+54	+54	+54	+55
Pontiac	Mich.	42 40	EST	+48	+49	+49	+49	+50
Traverse City	Mich.	44 50	EST	+49	+55	+58	+61	+67
Albert Lea	Minn.	43 40	CST	+25	+28	+29	+31	+34
Bemidji	Minn.	47 30	CST	+15	+29	+35	+42	+56
Duluth	Minn.	46 47	CST	+ 7	+19	+24	+30	+42
Minneapolis-St. Paul	Minn.	44 57	CST	+19	+26	+29	+32	+39
Ortonville	Minn.	45 20	CST	+30	+38	+41	+45	+53
Jefferson City	Mo.	38 32	CST	+37	+29	+25	+20	+12
Joplin	Mo.	37 04	CST	+51	+39	+34	+28	+17
Kansas City	Mo.	39 05	CST	+45	+38	+34	+30	+23
Poplar Bluff	Mo.	36 40	CST	+35	+23	+17	+11	− 1
St. Joseph	Mo.	39 46	CST	+44	+38	+35	+32	+26
St. Louis	Mo.	38 38	CST	+29	+21	+17	+12	+ 4
Springfield	Mo.	37 13	CST	+46	+34	+29	+23	+12
Chadron	Neb.	42 50	CST	+66	+67	+68	+68	+70
Grand Island	Neb.	40 52	CST	+54	+51	+49	+48	+44
Lincoln	Neb.	40 49	CST	+48	+44	+43	+41	+37
Norfolk	Neb.	42 01	CST	+47	+46	+45	+45	+44
North Platte	Neb.	41 10	CST	+63	+60	+59	+57	+55
Omaha	Neb.	41 16	CST	+43	+41	+40	+38	+36
Sidney	Neb.	41 08	CST	+72	+69	+67	+66	+63
Bismarck	N. D.	46 48	CST	+42	+53	+59	+64	+77
Fargo	N. D.	46 52	CST	+25	+37	+43	+49	+61
Grand Forks	N. D.	47 56	CST	+22	+37	+44	+51	+67
Minot	N. D.	48 15	CST	+37	+54	+61	+68	+85
Williston	N. D.	48 10	CST	+47	+63	+70	+78	+94
Akron	Ohio	41 05	EST	+46	+43	+42	+40	+37
Canton	Ohio	40 48	EST	+47	+43	+41	+39	+36
Cincinnati-Hamilton	Ohio	39 06	EST	+64	+57	+54	+50	+43
Cleveland-Lakewood	Ohio	41 30	EST	+46	+43	+42	+42	+40
Columbus	Ohio	39 58	EST	+56	+50	+48	+45	+40
Dayton-Springfield	Ohio	39 46	EST	+58	+55	+52	+49	+43
Lima	Ohio	40 45	EST	+58	+54	+52	+50	+47
Toledo	Ohio	41 39	EST	+52	+51	+50	+49	+47
Youngstown	Ohio	41 06	EST	+43	+40	+38	+37	+34
Aberdeen	S. D.	45 30	CST	+38	+46	+50	+54	+62

Continued on next page

MIDWESTERN STATES (Continued)

City	State	Latitude ° ′	Time Used	Key Letters A-D m	E-H m	I m	J-M m	N-Q m
Murdo	S. D.	43 53	CST	+53	+57	+59	+60	+65
Pierre	S. D.	44 21	CST	+50	+55	+57	+59	+65
Rapid City	S. D.	44 05	CST	+62	+67	+69	+71	+75
Sioux Falls	S. D.	43 33	CST	+38	+41	+43	+44	+47
Eau Claire	Wis.	44 51	CST	+13	+19	+22	+25	+31
Green Bay	Wis.	44 30	CST	0	+ 5	+ 8	+10	+16
LaCrosse	Wis.	43 40	CST	−15	−19	+21	+22	+26
Madison	Wis.	43 04	CST	+11	+12	+13	+14	+16
Milwaukee	Wis.	43 02	CST	+ 5	+ 7	+ 7	+ 8	+10
Oshkosh	Wis.	44 01	CST	+ 2	+ 6	+ 8	+10	+15
Wausau	Wis.	44 56	CST	+ 5	+12	+15	+18	+25
Montreal	Que.	45 30	EST	− 4	+ 5	+10	+15	+23
Quebec	Que.	46 45	EST	−19	− 6	+ 1	+ 8	+20
Toronto	Ont.	43 45	EST	+29	+31	+33	+36	+38

MIDWEST WEATHER FORECAST

Verification Base: Chicago. However, this is meant to serve for Minnesota, Wisconsin, and Michigan (remembering these states are slightly colder) and Indiana, Iowa (slightly warmer).

THE YEAR (JAN.–DEC. 1968)

Temperature for this year will be a normal 49.8°, but precipitation will be 35.48", just slightly below normal (36.0"). Look for a heavy storm of snow between January 24 and 31, and again the last week of February. The last week of April may be violent as well as the first week in May. Two severe thunderstorms are expected between June 11 and 13 and 23 through 27. July 6 through 10 seems to hold a dangerous storm. November 21 to 30 will be miserable for travel, as well as December 7 to 11, and 24 to 31.

THE WINTER (NOV. 1967–APRIL 1968)

Here will be close to normal temperature (33.9° against 34.2° normal), much higher precipitation (14.02" against 12.72" normal), and 38" of snow (compared with the normal of 33"). It will be wintry all right — but nothing like the Blizzard of 1967 or tornadoes as far north as Chicago.

Nov. 1967: Avg. temp. 39.4°. Rain 1.98". Snow 2". Storm first week — very heavy.

Dec. 1967: Avg. temp. 29.3°. Prec. 1.84". Snow 10". Bad storm with snow (7–13).

Jan., 1968: Avg. temp. 21° (3.7° below normal). Prec. 2.0". Snow 8". Rain and snow (5–10), heavy storm with snow (24–31). There will not be a repetition of last year's blizzard.

Feb.: Avg. temp. 28.2°. Prec. 1.73". Snow 10". Chicago's worst storm of the year — but not anywhere near as bad as the worst storm last year — will come in during the last week (22–29).

Mar.: Avg. temp. 36.2°. Prec. 2.69". Snow 8". The Midwest will get most of its snow in the storm 5–11. However, considerable violence is indicated between the 18th and 23rd and a cold wet storm 27–31.

Apr.: Avg. temp. 49.5° (1.9° above normal). Rain 3.66". Nothing violent this month except perhaps during the last week (25–30). The bad storms elsewhere (12–18) would seem to be light here—with perhaps heavy rain between 5th and 8th.

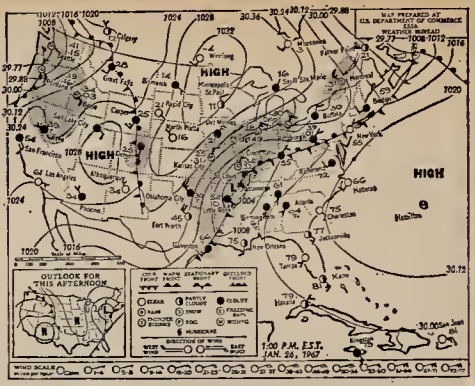
May: Avg. temp. 57.2° (normal 58.2°). Rain 3.80" (normal 3.48"). This is a tornado month in the area, which means the first week could bring as much as half the rain of the entire month — and is the one to watch. Rains again (11–13 and 16–17), but the last two storms, (21–24) and during the last week, are not to be worried about.

June: Avg. temp. 70.2° (normal 68.1°). Rain 4.25" (normal 3.59"). This area will have at least two severe thunderstorms or tornadoes — one between 11–13 and another 23–27.

July: Avg. temp. normal 73.7°. Rain normal 3.43". Extreme heat will be broken by showers (1–3), (14–16) and (22–26). However, a storm coming between the 6th and 10th may be dangerous, windy, and really wet.

Continued on next page

THE GREAT BLIZZARD OF 1967



■ WHILE THE CITIZENS of Boston, New York (even Buffalo), Atlanta, Miami, New Orleans, Phoenix, and Los Angeles were getting up to a fair and warmish day the morning of January 26, 1967 — those of Galveston, Kansas City, St. Louis, Cincinnati, Detroit, and Chicago were not. A glance at the shaded area of the weather map for that day shows how it was. What does not show is that in the Chicago, Detroit, and South Bend areas those who came to work in what they thought was "just another snowstorm" were really walking into the heaviest blizzard ever known to this center of the population of the United States. Drifts accumulated to 20 feet in some places. With no place to put all this snow along with that which followed in the next 10 days, the railroads had to carry it to the south where it would melt. Cars were stranded, businesses, schools, and factories closed for days. Radio stations carried messages night and day from separated friends and families. The official figure of snow depth on the ground by Groundhog Day (Feb. 2) was 30 inches. By the 6th, six more inches had been added to the total. Winds, during the record fall of the 26th and 27th, were as high as 60 miles per hour. It was the worst storm in recorded history in Chicago. After threatening the East, but never really getting there, it moved up into Canada and disappeared. The rest of the states in which this storm was rain, instead of snow, are still thanking their lucky stars . . . and the offsetting "warm trough from Galveston to the northeast." This ALMANAC predicted it for the areas where it hit.

Continued from page 97

Aug.: Avg. temp. 69.3° (normal 72.4°). Rain 3.5″ (normal 3.16″). Most of this rain will fall between 6–11 and 21–27, but neither storm is cause for alarm, nor is the one 12–16.

Sept.: Avg. temp. 66.6° (normal 65.6°). Rain normal 3.10″. Really nothing bad in the rains (2–5), (13–15) and (27–30). A storm between the 19th and 25th, however, will bear watching.

Oct.: Avg. temp. 55.5° (normal 54.5°). Rain 2.8″ (normal 2.56″). Four rainy spells — the last two being heavier than the others, (4–7), (12–15), (17–19), and (28–30).

Nov.: Avg. temp. normal 40.4°. Prec. 2.15″ (normal 2.30″). Snow 2.7″. All of this snow will be during a miserable storm of rain, sleet, and snow between the 21st and 30th. The other two storms (3–5) and (10–13), are not too bad but that of 10–13 is twice as heavy as the 3–5 one.

Dec.: Avg. temp. 30.3° (normal 29.3°). Prec. 1.70″ (normal 1.98″). Snow 8″. Expect rain, sleet, and snow between the 7th and 11th — and again (to interfere with Christmas travel) between the 24th and 31st. The other two storms (14–16 and 19–21) are mostly rain.

TIDES OF THE GREAT LAKES

This year on November 21 someone no doubt will celebrate the 75th Anniversary of the Great Lakes' being declared a part of the world's High Seas. We suppose such a declaration was brought about for legal reasons. With the shipping traffic there international, the Lakes could hardly remain the inland waters of the United States and Canada. However, the rules which govern navigation of the Great Lakes are not those of the High Seas. They are the "Great Lakes Rules" and apply only to the Great Lakes and on the St. Lawrence River East to Montreal.

A lot of people live around the shores of these lakes. Most of them don't care what, from a legal standpoint, they are. On the other hand, almost all are interested in the water level of the one near which they live, and a considerable number of those who fish or boat — commercially or for pleasure — find these water level statistics vital.

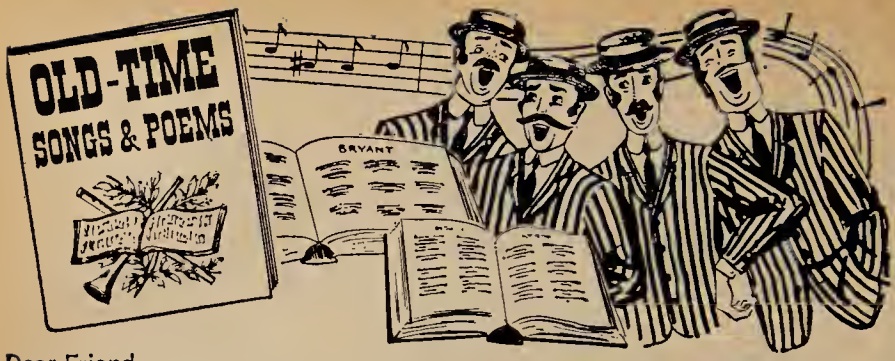
To one who lives along the ocean shores of America, it perhaps never occurs to him that tides exist anywhere except in the ocean. To these people it hardly seems likely that many clam diggers are studying Great Lakes tide tables for the low tides which East or West or Gulf Coast diggers so anxiously await.

Nor, as a matter of fact, despite the rise and fall of these lakes with the influence of the moon and sun, does anyone else care. At best, it amounts only to a rise of two to three inches when the moon is crossing the meridian of any given Great Lakes place. Six hours and twelve minutes later this same place will notice a fall of a similar amount. Twelve hours and twenty-five minutes after the meridian crossing, the same rise will occur again. And a similar fall happens six hours and twelve minutes after that. For the meticulous, a ruler placed on the beach and noticed at the time of these meridian crossings will tell the exact local story. Or would, were it not for the fact that on most days and nights other factors are influencing the Great Lakes water levels far more than do the tides.

But, before you cross off your interest in this tide phenomena, you may wish to remember that on a deep inland lake the "tide forces" bring high tide to the Eastern end of the lake about three hours before actual "lake high tide" — and to the Western end about three hours after this maximum. In brief, high tide does not occur simultaneously on any of the Great Lakes. When it is high tide in one end, it will be low tide in the other. So saith, at least, the U. S. Coast and Geodetic Survey — and it, by reason of its concern with tides the world over, should know.

The Army Corps of Engineers at Detroit is now giving specific attention to these Great Lakes water levels. It reports that the full results of its present studies will not be apparent for at least

Continued on Page 114



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6.-7. WESTERN AND MOUNTAIN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24–46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for both the Northern and Southern States of the Far West. Note the Key Letter for any given day (pages 24–46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. Example: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Key Letter N for San Francisco (last col. below) shows +9. So sunrise at San Francisco will be 7:21 A.M., PST. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

NORTHERN TIER

The adjusted times found for these cities will be accurate generally to within 5 min.

City	State	Latitude °	′	Time Used	Key Letters A-D m	E-H m	I m	J-M m	N-Q m
Fresno	Cal.	36	44	PST	+33	+21	+15	+ 9	− 3
Redding	Cal.	40	30	PST	+31	+27	+25	+23	+19
Sacramento	Cal.	38	35	PST	+34	+26	+22	+18	+ 9
San Francisco incl. Oakland & San Jose.	Cal.	37	47	PST	+40	+29	+25	+20	+ 9
Stockton	Cal.	37	57	PST	+35	+26	+21	+16	+ 6
Craig	Colo.	40	30	MST	+32	+28	+26	+24	+19
Denver-Boulder	Colo.	39	45	MST	+25	+19	+16	+13	+ 8
Grand Junction	Colo.	39	03	MST	+41	+33	+30	+26	+19
Pueblo	Colo.	38	16	MST	+28	+18	+14	+10	+ 1
Trinidad	Colo.	37	08	MST	+31	+19	+14	+ 8	− 3
Boise	Idaho	43	37	MST	+56	+59	+61	+62	+65
Lewiston	Idaho	46	25	PST	−12	− 1	+ 4	+ 9	+20
Pocatello	Idaho	42	55	MST	+44	+45	+45	+46	+47
Billings	Mont.	45	47	MST	+16	+25	+29	+33	+43
Butte	Mont.	46	01	MST	+32	+41	+46	+50	+60
Glasgow	Mont.	48	10	MST	0	+15	+22	+30	+46
Great Falls	Mont.	47	30	MST	+21	+34	+41	+47	+61
Helena	Mont.	46	36	MST	+27	+39	+44	+49	+61
Miles City	Mont.	46	30	MST	+ 3	+14	+19	+24	+35
Carson City-Reno	Nev.	39	31	PST	+25	+18	+15	+11	+ 5
Elko	Nev.	40	50	PST	+ 4	+ 1	− 1	− 3	− 7
Las Vegas	Nev.	36	10	PST	+16	+ 3	− 4	−10	−24
Eugene	Ore.	44	03	PST	+22	+26	+28	+30	+34
Pendleton	Ore.	45	35	PST	− 2	+ 7	+11	+15	+24
Portland	Ore.	45	31	PST	+14	+23	+26	+30	+39
Kanab	Utah	37	03	MST	+63	+52	+46	+40	+29
Moab	Utah	38	35	MST	+47	+38	+34	+30	+21
Ogden	Utah	41	14	MST	+48	+45	+44	+42	+40
Salt Lake City	Utah	40	45	MST	+49	+45	+43	+41	+38
Vernal	Utah	40	30	MST	+40	+36	+34	+32	+27
Bellingham	Wash.	48	54	PST	+ 4	+19	+26	+32	+48
Seattle-Tacoma-Olympia	Wash.	47	37	PST	+ 6	+20	+26	+32	+46
Spokane	Wash.	47	40	PST	−16	− 1	+ 5	+12	+27
Walla Walla	Wash.	46	04	PST	− 5	+ 5	+ 9	+14	+24
Casper	Wyo.	42	50	MST	+20	+21	+22	+22	+24
Cheyenne	Wyo.	41	08	MST	+17	+14	+13	+11	+ 9
Rawlins	Wyo.	41	45	MST	+27	+25	+25	+24	+23
Rock Springs	Wyo.	41	35	MST	+35	+33	+33	+32	+30
Sheridan	Wyo.	44	50	MST	+14	+20	+23	+26	+33

SOUTHERN TIER

The adjusted times found for these cities will be accurate generally to within 10 mins.

Flagstaff	Ariz.	35	08	MST	+62	+50	+42	+35	+22
Phoenix	Ariz.	33	27	MST	+69	+53	+44	+35	+19
Tucson	Ariz.	32	13	MST	+68	+50	+40	+29	+11
Yuma	Ariz.	32	40	MST	+81	+64	+54	+44	+27
Fort Smith	Ark.	35	25	CST	+54	+41	+33	+26	+13
Bakersfield	Cal.	35	30	PST	+32	+19	+12	+ 4	− 8
Barstow	Cal.	34	55	PST	+25	+12	+ 4	− 4	−18
Los Angeles incl. Pasadena & Santa Monica	Cal.	34	03	PST	+32	+17	+ 9	0	−14
San Diego	Cal.	32	43	PST	+31	+14	+ 4	− 5	−23
Albuquerque	N. M.	35	05	MST	+43	+30	+22	+15	+ 1
Gallup	N. M.	35	30	MST	+50	+38	+31	+24	+11
Las Cruces	N. M.	32	20	MST	+51	+34	+23	+12	− 5
Roswell	N. M.	33	20	MST	+39	+23	+14	+ 5	+11
Santa Fe	N. M.	35	41	MST	+39	+26	+19	+12	0
Ardmore	Okla.	34	05	CST	+67	+53	+44	+36	+21
Oklahoma City	Okla.	35	28	CST	+66	+53	+46	+38	+26
Tulsa	Okla.	36	09	CST	+58	+46	+40	+33	+21

6. THE GREAT PLAINS WEATHER FORECAST

For weather forecast of the Pacific Northwest — turn the page.

Verification Base: Denver, Colorado. However, this forecast is meant to indicate something about the weather for the Dakotas, Nebraska, Missouri, Kentucky, as well as Montana and Wyoming. As the "worst weather in the world" is at Medicine Hat, Fargo, and Bismarck (with parts of it seeping into Minnesota), for these points it should be much colder, wilder, and more severe — but the storm dates should be okay.

THE YEAR (JAN.–DEC. 1968)

Temperatures near 49.8° (as against 50.3°, which is normal) should prevail in this area and the precipitation should also be about normal, 14.16" (against 14.94", the normal). The February storm (between the 8th and 15th) may be the winter storm of the year, while August 21 to 27 seems to carry with it the heaviest rainfall.

THE WINTER (NOV. 1967–APRIL 1968)

Colder than normal (35.6° against the normal of 36.9°), slightly more precipitation than normal (5.78" versus normal 5.38"), and just slightly less snow (51" against normal of 56").

Nov. 1967: Avg. temp. 38.9°. Prec. .63". Snow 6". Storm with snow first week.

Dec. 1967: Avg. temp. 32.4°. Prec. .57". Snow 10". Snowstorms first two weeks.

Jan. 1968: Avg. temp. 25.5°. (4.6° below normal). Prec. .49". Snow 10". The snowstorms will be in the last half of the month (18–20 and 24–31).

Feb.: Avg. temp. 33.9°. Prec. .56". Snow 11". The second week (8–15) is the one to watch for, perhaps, The Storm of 1968.

Mar.: Avg. temp. 38.6°. Prec. 1.15". Snow 14". The latter part of the period 5–11 will be stormy with snow, while that between the 18th and 23rd will include a lot of snow, hail, and rain.

Apr.: Avg. temp. 49.4° (1.9° above normal). Rain 2.41". There could be a repetition this year of last April's stormy period which came in between the 10th and 16th. This year it will fall between the 5th and 8th.

May: Avg. temp. 55.8° (normal 56.8°). Rain 2.61" (normal 2.39"). Curiously enough, May is a rainy month in the Great Plains — and fortunately so for most growers. However, most of the rain will be found in the first week, and between the 11th and 17th. Showers 21–22, and the month ends (25–31) in at least one good downpour.

June: Avg. temp. 68.7° (normal 66.3°). Rain 1.71" (normal 1.45"). This is the tornado, thunderstorm, and duststorm month in this area. The 11–13 and 23–25 may bring one or all.

July: Avg. temp. normal 72.7°. Rain normal 1.67". There are a few good thunderstorms and a tornado or two still hanging from the Canadian border which may come in (6–10). The other storms are moderate, (1–3), (14–16) and (22–26).

Aug.: Avg. temp. 68.3 (normal 71.4°). Rain 1.55" (normal 1.39"). Two spells of rain or showers (6–11 and 14–16), then the heaviest rain of the summer (21–27).

Sept.: Avg. temp. 63.8° (normal 62.8°). Rain normal 1.08". Only one major storm — that between the 19th and 25th — rain and wind.

Oct.: Avg. temp. 52.7° (normal 51.7°). Rain 1.1" (normal .99"). Whatever rains do come into this area this month will be more welcome than worrisome. Expected (4–7), (12–15), (17–19) and (28–30).

Nov.: Avg. temp. normal 39.8°. Prec. .6" (normal .63"). Snow 8". Only one major storm this month. This comes in, with snow, between the 21st and 30th.

Dec.: Avg. temp. 33.4° (normal 32.4°). Prec. .53" (normal .61"). Snow 6". The storm between the 7th and 11th will be snow, and that between the 24th and 31st should make a White Christmas in this area. The other two storms (14–16 and 19–21) are warmer with the first one more threatening than the other.

7. PACIFIC NORTHWEST WEATHER FORECAST

Verification Base: Portland, Oregon. However, this forecast should be useful if you reduće the amounts of rain as you go south all down the coast to San Francisco. No attempt is made herewith for Southern California or the desert states as the variations, except around coastal Southern California, are too small to be meaningful. Nor have we summarized the winter as snow (normally 7.9") for the six winter months is not a problem. However, we have included November and December 1967 — just in case.

THE YEAR (JAN.–DEC. 1968)

The average temperatnre will be 51.9° which is two-tenths of one degree below normal (52.1°), or not enough to mention. Precipitation will also be normal — 38.43". Highlights to watch this year are the storms between Mareh 18 and 23, the first week of May, between May 11 and 17, and between November 21 and 30.

Nov. 1967: Avg. temp. 46.0°. Rain 5.24". Heavy rains last two weeks.

Dec. 1967: Avg. temp. 41.0°. Rain 5.35". Very rainy 7–14, and not clear 23–31.

Jan. 1968: Avg. temp. 32.4° (5.9° below normal). Pree. 5.85". Snow 5". Heavy rains 5–10, and again with some snow 24–31.

Feb.: Avg. temp. 37°. Pree. 3.83". Snow 4.7". The last week (22–29) is where most of the rain will come in, whereas the seeond week (8–15) will bear the snow.

Mar.: Avg. temp. 45.7°. Prec. 3.79". The only real trouble period here seems to be between the 18th and 23rd and this will be a "deluge."

Apr.: Avg. temp. 53.1° (2° above normal). Rain 2.2". Very wet (12–18 and 25–30)—not anything dangerous.

May: Avg. temp. 55.7° (normal 56.7°). Rain 2.31" (normal 2.12"). There is a good ehanee of at least one tornado or heavy shower in the first week — and between the 11th and 17th. Drizzles 21–22 and a moderate storm 25–31.

June: Avg. temp. 64.3° (normal 62.4°). Rain 1.88" (normal 1.59"). Can't see anything bad this month exeept possibly between the 23rd and 27th.

July: Avg. temp. normal 64.7°. Rain normal .52". Nothing much doing, weatherwise, this month in this area. Of the four periods in which there may be showers, (1–3), (6–11), (14–16), and (22–26), only the second one (6–11) looks as if it might mean umbrellas and raineoats.

Aug.: Avg. temp. 61.4° (normal 64.2°). Rain .8" (normal .75"). Nothing to amount to anything this month exeept between the 21st and 27th — and that not serious.

Sept.: Avg. temp. 63.5° (normal 62.5°). Rain normal 1.54". Only storm to be afraid of might be one between the 19th and 25th.

Oct.: Avg. temp. 55.1° (normal 54.1°). Rain 3.90" (normal 3.54"). Storms begin to come into the area this month. All of the four expected (4–7), (12–15), (17–19), and (28–30), will be heavy, but that of 17–19 heavier than the others.

Nov.: Avg. temp. normal 45.4°. Rain 5.40" (normal 5.8"). As the heavy rains eontinue in this area, expeet a storm 3–5, a downpour 10–13, and between the 21st and 30th, the "deluge."

Dec.: Avg. temp. 42° (normal 41°). Rain 4.95" (normal 5.76"). Three periods of heavy rain this month (7–11), (14–18), and (24–31). The storm between the 19th and 21st, however, is relatively light.

NODES OF THE MOON

The "moon runs high" and "moon rides low" symbols (see pages 25–47) are useful as weather predietors. When it runs high, look out for a eool spell or frost — when riding low, there is often a mild spell; in summer, a heat wave.

Two years ago, a prominent bookseller offered for sale an almanack whieh was said to have been used by George Washington at Mount Vernon. Its ealendar pages were eovered with "hieroglyphics" in our first President's handwriting. These "hieroglyphics" marked the nodes of the moon eaeh month. In Washington's time, the nodes of the moon were widely used as planting guides.

SACAJAWEA, THE WOMAN WHO LED THE WAY TO THE GOLDEN EMPIRE OF WESTERN AMERICA

(Left, the statue erected to her by the women of Oregon at Portland. Alice Cooper, sculptress.)

The Lewis and Clark Expedition across the continent to the Pacific Coast, 1803 to 1806, was not the first of its kind but, following as it did hard upon the heels of the Louisiana Purchase, it was probably the most significant. Thomas Jefferson planned it to establish a land route to the West, to find out more about the native Indians along this route, and to strengthen America's claims to the territory of Oregon. His private secretary, Captain Meriwether Lewis, was given command; Lewis selected William Clark as his associate. Congress appropriated the money. The men were trained in Illinois across the river from St. Louis in the winter of 1803-04. In May, 1804, the company went up the Missouri and wintered (1804-05) near Bismarck, North Dakota. In the spring of 1805, advances were made to the Three Forks of the Missouri. The three rivers they named the Jefferson, the Madison, and the Gallatin. Their decision was to follow the Jefferson River—and this they did until they had to stop. And indeed, this might well have been their final destination had it not been for the only woman in their midst, the wife of their French interpreter, Touissant Charboneau, a Shoshone Indian nee Sacajawea.

As a Shoshone, this Indian girl was born and grew up along the Snake River in Idaho just west of the Bitter Root Mountains which we now call the Rockies. It was here that the Blackfeet Indians killed many of the Shoshones and took the rest, including this girl, into captivity. They subsequently took her to Bismarck and sold her, as a slave (and second wife), to the aforesaid Charboneau. On February 11, 1805, just before the expedition was to leave (April 7) Bismarck for Three Forks she gave birth to a son. Sacajawea strapped her little papoose on her back and carried Baptiste, as he was called, the entire distance of this hazardous 5,000 mile trip.

On May 14, 1805, enroute to Three Forks, Sacajawea, child and all, plunged into the Jefferson to save the papers, instruments, medicine, and other indispensable articles from her husband's overturned canoe. For this daring act, Lewis and Clark named after her a new-found river, now known as Crooked Creek in Montana. At Three Forks the expedition camped at the exact spot where Sacajawea had been captured by the Blackfeet.

From this point on, remarkable as it may seem since she had been taken from there at age five, Sacajawea came to recognize familiar landmarks—and the path to the West over which she had travelled with *her* mother as a papoose became clear. She found for Clark the pass in the mountains through which her tribe had gone—and in fact on the other side of it were what was left of the Shoshone tribe. Among these were a girl who had been captured (but escaped) at the same time as Sacajawea had been, and also the new chief of the Shoshones, her long-lost brother.

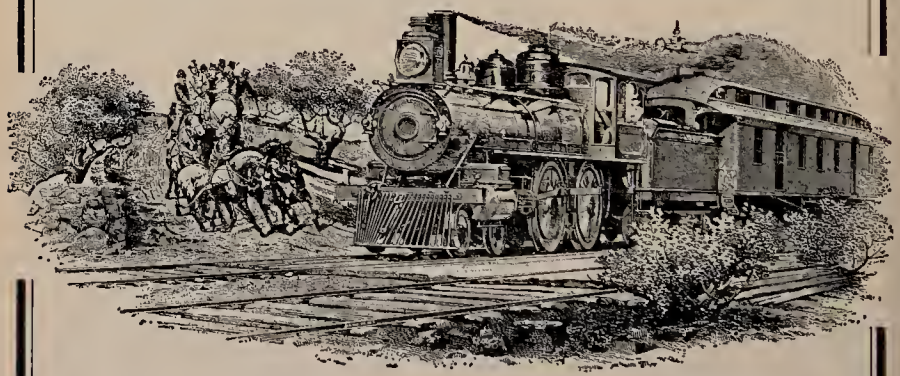
A recital of all the services this remarkable woman performed for Lewis and Clark is found in their journals. Among them it is told how she found it necessary to disclose to her white friends the treachery of her own brother. Had she not done this, the expedition undoubtedly would have lost all its horses—and perished in the

mountains. Also her knowledge of medicinal herbs and their curative properties was "of extreme worth in time of sickness." She averted starvatiou more than once by concocting meals from native seeds and plants—as well as by searching out the artichokes stored away in prairie dog holes by those little animals for winter sustenance.

Lewis and Clark reached Clatsop on the Pacific Coast on December 7, 1805—4,135 miles from St. Louis. They were back again in Bismarck in August 1806. Charboneau was then paid off with the sum of $500. No more was heard of Sacajawea until the St. Louis Fair in 1904 and the Lewis and Clark Exposition at Portland, Oregon in 1905. In these years, Eva Emery Dye's book "The Conquest" extolled her. Bruno Louis Zimm, a New York sculptor, in his preparations for a statue of Sacajawea, turned up her gravestone—"a slight slab" in a 40-acre tract of the Shoshone Reservation in Wyoming. Local records noted her passing at age 100, April 9, 1884. She received a Christian burial and many of her descendants from an adopted son, as well as her own "Baptiste," are living today in those parts.

In addition to the Zimm's statue which stood between the Liberal Arts and Manufacturers' buildings at the St. Louis Fair, the women of Oregon commissioned Alice Cooper to do another of her to stand in Portland. In 1907 the Legislature of North Dakota appropriated $15,000 for a foundation and pedestal in honor of Sacajawea at Bismarck, by Leonard Crunelle. A project was also initiated by the State of Wyoming in her memory at Three Forks. And, too, she is remembered in Paxson's idealistic portrayal in oils of her as "tall, rawboned and angular."

To Sacajawea must be given the credit for the "greatest real estate transaction in history"—one which pushed the boundaries of our country from the Mississippi River to the Pacific—which gave us beyond all reasonable doubt the breadth of our hemisphere from the Atlantic to the Pacific.



LABOR and the SATURDAY HALF HOLIDAY

Among some old clippings found in an Athol, Massachusetts attic last spring were those concerning, in 1888, agitation for the establishment of not only Labor Day as a National holiday but also for Saturday as a half-holiday. Today, across the country, we take these two for granted. However, we find in these clippings the astounding conditions (astounding to us at least) under which the workingmen and women struggled—only 80 years ago. There was, for example, the 10-hour work day and the 60-hour week. A wage of $3.00 per week was considered good pay for a dry goods clerk; carpenters were lucky to get as much as a dollar a day; you came in 10 minutes late—you lost a half day's pay. Even so, labor leaders pushing for Labor Day and the Saturday afternoon off, were willing, if these two were to be grauted to the workers, to forego payment of wages for this time off. Quite a change for the better, we would say, from then to now.

Warren Drew has kindly supplied the above engraving done by L. J. Hatch for the International Bank Note Company about 1895. Perhaps those on board the train as well as ou the coach are enjoying (or were until their paths were about to cross) one of the first of these Labor Days—or Saturday afternoons off?

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8. SOUTHERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24–46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in the Southern States. Note the Key Letters for any given day (pages 24–46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. Example: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Key Letter N for Atlanta is +29. So sunrise at Atlanta will be 7:41 A.M., EST. Accuracy will be within 15 min. for Lat. 25–30°, 10 min. for Lat. 30–35°, and 5 min. for Lat. north of 35°. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 88 and 89.)

City	State	Latitude °	′	Time Used	Key Letters A-E m	F-H m	I m	J-L m	M-Q m
Birmingham	Ala.	33	31	CST	+28	+12	+ 3	− 6	−22
Decatur	Ala.	34	30	CST	+26	+12	+ 4	− 4	−19
Mobile	Ala.	30	42	CST	+39	+19	+ 8	− 4	−24
Montgomery	Ala.	32	22	CST	+29	+11	+ 1	− 9	−26
Little Rock	Ark.	34	45	CST	+47	+33	+25	+17	+ 3
Texarkana	Ark.	33	30	CST	+57	+41	+32	+23	+ 7
Jacksonville	Fla.	30	20	EST	+75	+54	+42	+30	−10
Miami	Fla.	25	47	EST	+79	+52	+37	+21	− 6
Pensacola	Fla.	30	25	EST	+97	+77	+65	+53	+33
St. Petersburg	Fla.	27	46	EST	+84	+60	+46	+32	+ 8
Tallahassee	Fla.	30	30	EST	+85	+65	+53	+41	+21
Tampa	Fla.	27	57	EST	+83	+59	+46	+32	+ 8
W. Palm Beach	Fla.	26	46	EST	+76	+50	+36	+21	− 5
Atlanta	Ga.	33	45	EST	+78	+62	+53	+44	+29
Augusta	Ga.	33	28	EST	+69	+52	+44	+35	+17
Columbus	Ga.	32	28	EST	+83	+67	+56	+44	+28
Macon	Ga.	32	50	EST	+77	+62	+50	+39	+24
Savannah	Ga.	32	05	EST	+68	+50	+40	+30	+12
Covington	Ky.	39	07	EST	+64	+57	+54	+50	+44
Lexington-Frankfort	Ky.	38	03	EST	+67	+59	+54	+50	+41
Louisville	Ky.	38	15	EST	+17	+63	+59	+54	+46
Alexandria	La.	31	16	CST	+56	+36	+26	+14	− 5
Baton Rouge	La.	30	27	CST	+53	+32	+20	+ 9	−12
Lake Charles	La.	30	15	CST	+61	+40	+28	+17	− 4
Monroe	La.	32	30	CST	+51	+34	+24	+14	− 3
New Orleans	La.	29	57	CST	+49	+28	+16	+ 4	−17
Shreveport	La.	32	31	CST	+58	+41	+31	+21	+ 3
Biloxi	Miss.	30	15	CST	+44	+23	+12	0	−20
Jackson	Miss.	32	18	CST	+44	+26	+16	+ 6	−11
Meridian	Miss.	32	28	CST	+38	+20	+11	0	−17
Tupelo	Miss.	34	18	CST	+34	+19	+10	− 2	−13
Asheville	N. C.	35	36	EST	+66	+53	+46	+39	+26
Charlotte	N. C.	35	13	EST	+60	+46	+39	+32	+18
Durham	N. C.	36	00	EST	+50	+38	+31	+25	+13
Greensboro	N. C.	36	04	EST	+53	+41	+35	+28	+16
Ralelgh	N. C.	35	47	EST	+50	+37	+30	+23	+11
Wilmington	N. C.	34	12	EST	+51	+36	+27	+19	+ 4
Charleston	S. C.	32	47	EST	+62	+45	+35	+26	+ 9
Columbia	S. C.	34	00	EST	+64	+48	+40	+31	+16
Spartanburg	S. C.	34	57	EST	+65	+51	+43	+36	+22
Chattanooga	Tenn.	35	03	EST	+78	+65	+57	+49	+36
Knoxville	Tenn.	35	58	EST	+70	+58	+51	+45	+33
Memphis	Tenn.	35	09	CST	+37	+23	+16	+ 8	− 5
Nashville	Tenn.	36	10	CST	+21	+ 9	+ 3	− 4	−15
Amarillo	Tex.	35	12	CST	+84	+70	+63	+56	+42
Austin	Tex.	30	16	CST	+79	+58	+47	+35	+14
Beaumont	Tex.	30	05	CST	+65	+44	+32	+20	− 1
Corpus Christi	Tex.	27	48	CST	+83	+59	+45	+31	+ 7
Dallas-Fort Worth	Tex.	32	47	CST	+72	+55	+45	+35	+18
El Paso	Tex.	31	46	CST	+111	+92	+82	+71	+52
Galveston	Tex.	29	18	CST	+70	+48	+35	+22	0
Houston	Tex.	29	45	CST	+71	+49	+37	+25	+ 3

HURRICANE EXPECTANCY

Over a 41-year average, the statistics reveal that at sunspot maximum a Gulf of Mexico hurricane will come in just about every two years — whereas in years of sunspot minimum, once about every nine years. This year, 1968, is just about at the maximum. For Florida the expectancy is, for a severe storm, once every two years — for Georgia once every four.

In Texas, the expectancy is one hurricane every 1.4 years during sunspot maximums and every 9 years during minimums. The year of 1968 is approaching a maximum of sunspots towards the spring of the year.

It looks as if both Florida and Texas will be hit this year at least once.

WEATHER FORECAST — SOUTHERN STATES

Verification Base: Atlanta, Georgia. However, this forecast should quite generally cover the Southern States, except possibly Florida and Northern Texas which have special climates all their own. The Winter is not summarized here as it doesn't mean too much in the South, except for migrant tourists who go there to enjoy reading about the storms going on up North. However, November and December, 1967 are included — just in case.

THE YEAR (JAN.–DEC. 1968)

Slightly cooler (60.6°) than normal which is 61.5°. The precipitation (51.64") is also just below normal (52.69"). There are two freezing periods which bear watching; viz., the last week of December, 1967, and between January 13 and 17, 1968. Tornadoes may come in the first two weeks of March and between April 5 and 8. June has two dangerous showers (11–13) and (22–27). Floods, August 21 through 27. September (19–25) has a hurricane threat, and a downpour is likely between November 21 and 30.

Nov. 1967: Avg. temp. 50.9°. Rain 4.27". Very heavy rains the first week. Stormy the last week.

Dec. 1967: Avg. temp. 44.6°. Rain 4.17". Heavy rains 7–13. Rain changes to sleet and a freeze, last week.

Jan. 1968: Avg. temp. 36.8° (6.7° below normal). Rain 6.17". Heavy rains 5–10 and during last week. Watch for freezing (13–17).

Feb.: Avg. temp. 38.4°. Rain 4.77". The rains will be very heavy during the second week (8–15), perhaps as much as 3" — and again during the last week (22–29), but not over 2".

Mar.: Avg. temp. 52.5. Rain 5.80". Very wet and dangerous and disagreeable 5–11, and again 18–23, with high probability of tornadoes all during the month — especially during the first two weeks.

Apr.: Avg. temp. 63.6° (2.4° above normal). Rain 4.95". The South's rainiest week will be between the 12th and 18th, but that of the 5th to 8th may carry tornadoes.

May: Avg. temp. 68.5° (normal 69.7°). Rain 3.75" (normal 3.45"). Heavy rains first week but not quite so heavy in the other three storm periods (11–17), (21–24), and (25–31).

June: Avg. temp. 78.8° (normal 76.5°). Rain 4.58" (normal 3.87"). The two periods of heaviest rainfall, each of which may include dangerous showers are 11–13 and 22–27. Some rain may also be expected between the 6th and 8th.

July: Avg. temp. normal 78.6°. Rain normal 4.73". More rain will fall in this area between the 7th and 10th than anywhere else in the U.S.A., besides which showers of 1–3, 14–16 and 21–26 won't seem like much.

Aug.: Avg. temp. 74.1° (normal 77.6°). Rain 4.4" (normal 3.96"). By far the heaviest storms here are between 6–11 and 21–27. The second one will cause floods.

Sept.: Avg. temp. 74.2° (normal 73.2°). Rain normal 3.19". Three minor storms of rain (2–5). (13–15), and (27–30). Chance of a hurricane or bad coastal rains between 19th and 25th.

Oct.: Avg. temp. 63.9° (normal 62.9°). Rain 2.80" (normal 2.55"). Four rainy spells, the first two not as heavy as the last two (4–7), (12–15), (17–19), and (28–30).

Nov.: Avg. temp. normal 52.1°. Rain 2.90" (normal 3.09"). Light rain 3–5, cold storm of rain 10–13, downpour between 21st and 30th.

Dec.: Avg. temp. 45.6° (normal 44.6°). Rain 3.86" (normal 4.49"). Heavy rains (7–11), (14–16), (19–21). Rain with sleet and freezing conditions between the 28th and 31st.

New Orleans in 1719

NEW ORLEANS' 250TH ANNIVERSARY

Unless some local historian discovers the exact day of February, 1718, on which Bienville founded New Orleans, we must assume that February 27, 1968 will be the Anniversary day long remembered in New Orleans history. For on this day of the annual Mardi Gras celebration, no doubt the founding also will be celebrated.

In looking over the history books, early and late, we would say New Orleans deserves a far larger share of space than has been given to it. Even John Fiske, from whose 1898 **History of America** we have snipped the above sketch, passes over it with a meager sentence or two. Saxon and Suydam's **Fabulous New Orleans** (Appleton-Century, 1939) more than makes up for all the other omissions. No city could ask for — or have been given — a more charming or delightful recounting of its history than that given by the latter book. To quote from it would be absurd. It is for continuous, uninterrupted reading **in toto.**

To study the beginnings of New Orleans, one (curiously enough) goes to Montreal, Canada. Here were born two brothers. The first, Pierre le Moyne, Sieur d'Iberville (1661-1706) is "Iberville." The second (his brother), Jean Baptiste le Moyne, Sieur de Bienville (1680-1768) is "Bienville." Iberville, after a 10-year hitch in the Navy of Louis IX of France, returned to Canada to lead expeditions (1686-97) against British Trading Posts in Hudson's Bay. In 1690 he was fighting for Schenectady, New York, and in 1696 not only destroyed Fort Pemaquid, Maine, but also captured St. John's in Newfoundland.

As if this were not enough history for one man, he, four ships, and his brother Bienville founded in 1699 (where LaSalle had failed) Old Biloxi (now Ocean Springs) on the Gulf of Mexico. After retiring to Mobile in 1702, he took off a few years to capture the islands of Nevis and St. Christopher from the British in the West Indies. After that, on his way to conquer both Boston and New York, fate and the yellow fever of Havana wrote his final chapter.

In the best tradition of his brother, Bienville fought famine, Indians, Spain, Canada, and the neglect of his own country, to keep Biloxi alive. By 1717, during the monopoly of the French merchant Antoine Crozat, who in turn had given it to one John Law, Bienville was caught up in one of the most spectacular examples of fraudulence, the Mississippi Bubble, ever known to these United States or France. As Governor-General, at this time, of Louisiana, Bienville controlled a territory vaguely defined as the "regions included in the valleys of the great Western rivers between the Alleghenies and the Rocky Mountains." New Orleans, named after the Duke of Orleans in France, the leading patron of Law's bank and bubble, was made by Bienville, in 1718, the leading city — in 1722, its capital.

By 1729, Law had died in poverty. Thousands of shareholders had been ruined. Immigrants by the thousands, also badly disillusioned, were stranded in the swamps around the city. Floods from the Mississippi wiped it out almost annually. But Bienville, now also remembered as one of the original 200 settlers, somehow nurtured it, protected it, and brought it to survival. In between times, he twice captured Pensacola from the Spanish — and gave the Natchez, as well as the Chickasaw Indians, a hard time. In 1743 he retired and spent his remaining days in Paris.

New Orleans owes much to the brothers Iberville and Bienville.

THE CAUSE OF HURRICANES

In 1671, one R. Bohun, a Fellow of Oxford College, undertook to research the Winds — by numerous studies of the writings of historians prior to his time and interviews with the sea captains of his day.

By some they are called **Huracanos**, and by others, **Orancan:** yet I rather think the word was first borrowed of the **Natives** and deduced from a barbarous **Origine.**

We seldom hear of any **Hurricanes** but within the jurisdiction of the Trade Wind, which blowing perpetually from the East.

Although the progress of the trade wind is naturally direct, yet meeting with any impediment it whirls about in a circular motion. This cause was assigned by **Dorisi** to the dangerous storms that happen near the Equinoctial. I have been informed by planters in the Indies of an hurricane which happened in 1563 together with an earthquake. It was believed the **Included Spirit** which caused that palpitation in the bosom of the earth, being afterwards released from its imprisonment caused these dreadful tempests. Fournier, a reputed author, mentioned an 1) inundation of the coasts of America, 2) an eruption of a burning mountain, and 3) an earthquake all happening at the same time . . . near Hisco, 35 miles south of Lima, Peru. It is not unusual to have these three happenings — and an hurricane — at about the same time and from the same cause.

For, the **nitro-sulphureous** spirit which causes the trembling of the earth, and the stupendous commotion of the seas afterwards breaks loose into the most horrid winds; especially in places that abound with these **thundering minerals:** which if we consider their active nature are the fittest materials for hurricanes. They are most to be dreaded about the end of summer, in the months of July, August, and September. For both winds and seas imitate the motions of the Sun and being dilated by the celestial heat, annually revert from North to South and from South to North again. So the Sun hasting from one to the other causes these conversions.

Hurricanes are usually preceded by an extraordinary tranquillity of the heavens and the seas. Those in the center are at first sensible of no disturbance. The best accounts of early hurricanes are to be found in Gonzalo D'Oviedo and in the journals of other Spaniards. But very few of these early journals come to our hands. I have found an Oviedo and in it a description of the hurricane of August 3, 1508 at San Domingo. That country had been called Happy Adventure but after this storm which utterly wasted and destroyed it, they called it Misadventure. On July 10, 1509 another followed this one there, greater than the one before. Thereafter Santo Domingo was called the City of Two Hurricanes—and the work of the Devil.

Last year I received an accurate account of an hurricane from a sea captain who had brought his Frigat through one of these on his way to the Indies on August 18th, 16 hours after the new moon about 90 leagues from Barbados. This Captain observed hurricanes of the new moon begin at night, and those of the full moon in the day. The terror of this storm was such the captain thought it to be the Emblem of Hell and the last dissolution of all things — thunder, lightning, and the whole air set on fire. It blew away an 18-foot boat from the deck, the crosspiece, all the sails and four men of a five man crew which was on the fore yard.

Some old Indians seem able to give notice of these hurricanes three or four days before their coming. Some believe that hurricanes most often happen when the moon is in perigee or closest to the earth. Sailors have been warned of them by the winds circling around the compass beforehand . . . or if not around it altogether, shifting some 14 points back and forth. Birds before an hurricane come down in flocks from the mountains. Rain which falls a little before an hurricane will taste bitter and as salty as sea water.

Lord Bacon writes that there are certain expansive spirits in some minerals (particularly nitre) which exceed the force of hurricanes. Nitre alone can effect no such wonders though by the addition of sulphur it can — such as in gunpowder, according to the greater or lesser alloys of sulphur or coal. Thus from the expansion of such **raging minerals** we can expect hurricanes. Since we have no better way to interpret Nature, we may with greatest probability derive these tempests from some such nitro-sulphureous exhalations. Such miraculous emotions of the atmosphere must necessarily proceed from some very extraordinary cause.

TIDE CORRECTIONS

To obtain the time and height of high water at any place, apply the differences below as they appear on pages 24–47 to the daily predictions for Boston (Commonwealth Pier). Where a value in the "height difference" column is preceded by an *, height at Boston should be multiplied by this ratio. The daily *times* of high tide at Boston are in the "Full Sea" column, pages 24–46. Daily heights are on pages 25–47. For Great Lakes see page 99.

	Time Difference h.m.	*Height Difference Ft.*
MAINE		
Augusta	+3 50	*0.4
Bangor	−0 05	+3.6
Bar Harbor	−0 33	+1.1
Boothbay Harbor	−0 20	−0.8
Eastport	−0 28	*1.9
Old Orchard	−0 10	−0.7
Portland	−0 10	−0.6
Stonington	−0 30	+0.2
NEW HAMPSHIRE		
Hampton	+0 15	−1.2
MASSACHUSETTS		
Fall River	−3 16	*0.5
Falmouth	−0 40	*0.1
Hyannisport	+0 45	*0.3
Lynn	+0 05	−0.2
Marblehead	−0 05	−0.3
Marion	−3 16	*0.4
Monument Beach	−3 06	*0.4
Nantasket	+0 10	+0.1
Nantucket	+0 50	*0.3
New Bedford	−3 21	*0.4
Oak Bluffs	+0 05	*0.2
Onset	−3 06	*0.5
Plymouth	0 00	+0.1
Provincetown	+0 15	−0.3
Scituate	−0 05	−0.5
Wellfleet	+0 20	+0.6
Woods Hole	−3 01	*0.2
RHODE ISLAND		
Block Island	−3 21	*0.3
Narragansett Pier	−3 31	*0.4
Newport	−3 31	*0.4
Providence	−3 11	*0.5
Watch Hill	−2 06	*0.3
CONNECTICUT		
Long Island Sound	−0 02	*0.7
New London	−1 47	*0.3
NEW YORK		
Coney Island	−3 00	*0.5
Long Beach	−3 57	*0.5
Long Island Sound	+0 08	*0.7
New York City	−2 50	*0.5
Ocean Beach	−3 57	*0.4
Southampton	−3 22	*0.3
NEW JERSEY		
Atlantic City	−3 57	*0.5
Bayside	−0 24	*0.6
Cape May	−3 37	*0.5
Ocean City	−3 17	*0.4
Seabright to Seaside Park	−3 44	*0.5
PENNSYLVANIA		
Philadelphia	+2 29	*0.5
DELAWARE		
Rehoboth	−3 37	*0.4
MARYLAND		
Baltimore	−4 25	*0.1
Ocean City	−3 57	*0.4
DISTRICT OF COLUMBIA		
Washington	−3 08	*0.3
VIRGINIA		
Norfolk	−1 54	*0.3
Virginia Beach	−3 14	*0.3
NORTH CAROLINA		
Beaufort	−2 59	*0.3
Carolina Beach	−3 30	*0.4
SOUTH CAROLINA		
Myrtle Beach	−3 45	*0.5
Charleston	−3 15	*0.5
GEORGIA		
St. Simon's Island	−2 51	*0.7
Savannah	−2 40	*0.8
Tybee Beach	−3 26	*0.8
FLORIDA		
Daytona	−3 20	*0.4
Fort Lauderdale	−2 15	*0.3
Jacksonville	−0 40	*0.1
Miami	−3 00	*0.3
Palm Beach	−3 20	*0.3
Port Everglades	−2 15	*0.3
St. Augustine	−2 20	*0.5
St. Petersburg	+3 58	*0.2
WASHINGTON		
Ilwaco	+1 44	−3.5
Port Townsend	+5 04	*0.5
Seattle	+5 37	−2.0
OREGON		
Astoria	+1 37	−3.3
Cape Arago	+1 19	−4.8
Yaquina Head	+1 12	−3.7
CALIFORNIA		
Catalina Island	−1 33	−5.9
Crescent City	+0 56	−5.0
Eureka	+1 20	−5.0
Long Beach	−1 37	−5.5
Monterey	−0 03	*0.4
Point Mendocino	+0 24	*0.4
San Diego	−1 35	−5.9
San Francisco	+0 59	*0.4
Santa Barbara	−1 19	−6.0
Santa Cruz	+0 08	*0.4

Example: The figures for Full Sea in Columns 10 and 11 of the left hand Almanac pages 24–46 are the times of high tide at Commonwealth Pier in Boston Harbor. The heights of these tides are given on the right hand pages 25–47. The heights are reckoned from Mean Low Water: each day has a set of figures—upper for the morning—and lower for the evening. The conversion of the times of the tides at Boston to those of Miami is given by way of illustration.

Example: Apr. 18. See page 30, column 11, for time; page 31 for height.

BOSTON		MIAMI	
High Tide (from page 30)	3.30 P.M.E.S.T.	High tide (Boston)	3.30 P.M.E.S.T.
April 18		Correction above	−3.00
		High tide (Miami)	12.30 P.M.E.S.T.
Height (from page 31)	8.8 feet	Height (Miami) (8.8 x 0.3)	2.64 feet

MOON WEATHER TABLE,

For foretelling the Weather through all the lunations of each year, forever.

This table, and the accompanying remarks, are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the sun and moon, in their several positions respecting the earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.

This weather table will answer very well for anywhere in the United States. It is taken from the 1849 issue of The Old Farmer's Almanac and was widely used before the advent of the Weather Bureau. Do not be surprised if the forecasts arrived at by this table do not agree with those on Pages 19, 91, 93, 97, 103. THE OFA goes by many factors besides the moon.

WEATHER TABLE FOR ANYWHERE

Moon	Time of Change	In Summer	In Winter
If the new moon, 1st quarter, full moon, or last quarter happens.	From Midnight to 2 A.M.	Fair	Hard frost, unless wind be S. or W.
	From 2 A.M. to 4 A.M.	Cold, with frequent showers	Snow and stormy
	From 4 A.M. to 6 A.M.	Rain	Rain
	From 6 A.M. to 8 A.M.	Wind and Rain	Stormy
	From 8 A.M. to 10 A.M.	Changeable	Cold Rain if wind be W.; Snow if E.
	From 10 A.M. to Noon	Frequent Showers	Cold & high wind.
	From Noon to 2 P.M.	Very rainy	Snow or rain.
	From 2 P.M. to 4 P.M.	Changeable	Fair & mild.
	From 4 P.M. to 6 P.M.	Fair	Fair.
	From 6 P.M. to 8 P.M.	Fair — if wind N.W. Rain — if S. or S.W.	Fair & frosty if wind N. or N.E.: Rain or snow if wind S. or S.W.
	From 8 P.M. to 10 P.M.	Same as from 6 P.M. to 8 P.M.	
	From 10 P.M. to Midnight	Fair	Fair & frosty.

Observations. — 1. The nearer the moon's changes, first quarter, full, and last quarter are to *midnight*, the fairer will it be during the next seven days.

2. The space for this calculation occupies from ten at night till two next morning.

3. The nearer to *midday*, or *noon*, the phases of the moon happen, the more foul or wet weather may be expected during the next seven days.

4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the summer, though they affect spring and autumn nearly in the same ratio.

5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i.e., from four to ten, may be followed by fair weather; but this is mostly dependent on the *wind*, as is noted in the table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet, in the main, the above observations will apply to those periods also.

7. To prognosticate correctly, especially in those cases where the *wind* is concerned, the observer should be within sight of a good *vane*, where the four cardinal points of the heavens are correctly placed.

The above table was originally formed by Dr. Herschell, and is now published with some alterations founded on the experience of Dr. Adam Clarke.

TO THE WEATHER-WISE

M. Toalda of Padua (circa 1720) asserted that the weather changes most often (85.8% of the time) when the new moon comes in; 83.4% with the full, and 66.7% with the other two phase changes. Recent studies by scientists with the U.S.W.B. and N.Y.U. show heaviest rainfall comes 3 to 5 days after the new and the full moons.

Many blossoms on plum trees in the Spring, heavy fruit crops in the Fall, oak (and other) leaves remaining on trees in December indicate a severe Winter is coming up. The thickness of Fall fur on most animals, goose bones, pigs' melts, distance between caterpillar stripes also are Winter predictors. Birds, particularly owls, pileated woodpeckers, and swallows are predictors — as is, of course, the woodchuck. When hornets build nests high off the ground, expect deep snows. Bees, spiders, and ants — as well as certain flowers — are useful as short-term predictors. Nature, on the whole, however, is not easily understood and birds and animals, who should know, are often as misled by her as is mankind. (See page 138.)

Continued from page 99

a decade. In the meanwhile, for the many in the Great Lakes area who have seen or heard about the sudden rises and drops in lake water levels, here is what the Corps has to say.

"These sometimes spectacular oscillations, which can make navigation treacherous and have frequently caused loss of life, occur as the result of strong winds blowing over these large masses of water and/or a significant difference in barometric pressure. Such a disturbance is called a 'seiche' (pronounced sash). A seiche is, by definition, a continuation of a water level disturbance after the external forces causing it have ceased to act. Those in the Great Lakes area are the result of severe storms on the Lakes produced by the numerous intense squall lines that move across central North America on paths that converge in that region. They tilt the Lake's surface, causing the water to be low at one end and high at the other. As the forces abate, the resultant flow towards the low end can be compared to the 'sloshing effect' of water in a broad, shallow pan.

"Lake Erie, with its general southwest - northeast orientation and shallowness, is most susceptible to this phenomenon. Its location is elose to the mean wintertime position of the polar front and exposes it to wind action from severe storms, many of which reach their full intensity in the area. In extreme cases, these 'wind tides' have produced in excess of 13 feet difference between Buffalo and Toledo at opposite ends of its longitudinal axis. At individual sites, such as at Toledo, Ohio, they have caused fluctuations to range from 6.5 feet above to about 7.5 feet below prevailing lake levels.

"The other Lakes, though not so susceptible as Lake Erie, are not immune, as shown by the fact that at 9:30 a.m. on 26 June 1954, the Lake Michigan levels at Chicago rose suddenly and reached 8 feet at Montrose Harbor and 10 feet at North Avenue. At least seven persons lost their lives. In addition, these sudden lows and highs result in other important reactions. The low waters are a hindrance to navigation and temporarily reduce power production. Their effects are particularly dangerous in harbors. In fact, in areas such as the mouth of the Detroit River and other sites, low water warning lights are displayed and periodic radio broadcasts are made to advise mariners of the depths available in the area. The highs, in addition to sometimes claiming lives, also may cause appreciable damage to coastal installations, recreational facilities and boating.

"Observations of these fluctuations had been made as early as the 17th Century. Fra Marquette (1673), Baron Hontan (1689), Charlevoix (1721), and General Dearborn (1829) all noted these phenomena and attributed them to the moon and sun and called them tides. By 1831, Major H. Whiting expressed belief, however, that though an astronomical tide did exist, it was very small, and that the winds and variations in barometric pressure must be the real force behind these changes. Modern studies of these disturbances have been, and are continuing to be, made. The U. S. Weather Bureau has already achieved considerable progress in forecasting these happenings so that the public may be forewarned. The U. S. Lake Survey is further studying their effect on restricted channels and harbors on the lakes, so that shippers and recreational boaters will not be trapped by unexpected waves or currents. Lake Survey is also studying their effect on shore property in order to design and make structures suitable to prevent loss or damage due to these abnormalities."

On February 10, 1967, despite the fact there has been in recent years some concern about the gradual lowering of the Great Lakes water levels, surveys showed that all of the lakes are now holding their own—and were above the normal 10-year average. In this, Huron, Michigan, and Superior are not doing as well as the others — but are above. Rises normally begin in the spring and climax in June or July. The levels then recede until it is spring again.

Incidentally — and purely so — a well-known restauranteur in Chicago has acquired a considerable reputation as a forecaster. He maintains the fish seek the depths of the lakes as bad weather approaches, but, as it goes away, they come into the shallower levels to feed.

Dr. George W. Platzman at the University of Chicago, and Mr. Gerhard C. Dohler, Water Resources Branch, Dept. of Mines, Ottawa — iu addition to the sources already mentioned — are the ones to seek out for more detailed, scientific iuformation.

Science Reveals New Facts about Liniment Benefits

One of man's best known treatments for tired, aching muscles receives new confirmation of effectiveness from modern medical research

PROBABLY the first treatments for sore, stiff muscles caused by overexertion was massage. Through the ages, man tried various combinations of tinctures, unguents and oils to improve the effectiveness of massage.

Absorbine Jr., a special combination of relief-giving medications, proved to have a most remarkable relief effect when massaged on tired, aching muscles.

While medical science has always known the beneficial effects of liniment massage, only recently, through the miracle of electronic research, have scientists actually been able to measure many benefits of the special Absorbine Jr. formula.

A leader in bio-medical electronics, using scientific procedures, proved that Absorbine Jr. brings back fatigued muscles twice as fast as nature can. Even without massage, the application of Absorbine Jr. doubled the speed of recovery of fatigued muscles.

Many people are not aware this unique liniment actually treats the cause of sore, tired muscles. They "just sit and ache" or resort to pills in the hope of masking pain.

Now science confirms the beneficial effects of Absorbine Jr. No longer is it necessary to "just sit and ache." The new Pres-O-Matic applicator makes it easy to use. Just rub on clean, refreshing liquid Absorbine Jr. and see how much faster you feel better.

GESTATION AND REPRODUCTION TABLE

	Proper age for first mating	Period of power of reproduction in years	No. of females for one male	Period of gestation and incubation		
				Shortest days	Mean days	Longest days
Mare	3 yrs.	10 to 12		325	336	352
Stallion	4 "	12 to 15	20 to 30			
Cow	18-24 mos.	10 to 14		235	282	300
Bull	12-18 "	10 to 12	30 to 40			
Ewe	18 "	6		145	147	152
Ram	12-14 "	7	35 to 45			
Sow	9 "	6		110	114	120
Boar	9 "	6	8 to 12			
She Goat	18 "	6		147	151	155
He Goat	18 "	5	20 to 30			
Ass	3 yrs.	10 to 12		356	367	378
Jack	4 "	12 to 15	20 to 30			
She Buffalo	18-24 mos.	8		309	315	325
Bitch	16-18 "	8		58	63	67
Dog	12-16 "	8				
She Cat	12 mos.	6		58	60	64
He Cat	12 "	10	6 to 8			
Doe Rabbit	6 "	5 to 6		25	30	35
Buck Rabbit	6 "	5 to 6	30			
Cock	6 "	5 to 6	12 to 18			
Hen		5 to 6		19	21	24
Turkey				24	26	30
Duck				28	30	32
Goose				27	30	33
Pigeon				16	18	20
Pea Hen				25	28	30
Guinea Hen				20	23	25
Swan				40	42	45
Hen or Duck's Eggs				22	30	34
Robin's Eggs				13	16	19

REPRODUCTIVE CYCLE IN FARM ANIMALS

Courtesy F. N. Andrews — Purdue University

	Reoccurs if not Bred (Days)	Estrual Cycle incl. Heat Period (Days)		In Heat for		Usual Time of Ovulation
		Ave.	Range	Ave.	Range	
Mare	16	21	10–37	5–6 days	1–37 days	24–48 hours before end of estrus
Sow	19	21	18–24	2–3 days	1–5 days	Usually second day of estrus
Ewe	15	16	14–20	30 hours	20–42 hours	1 hour before end of estrus
Goat	19	20	12–25	36–48 hours	20–80 hours	Near end of estrus
Cow	20	19–20	16–24	16–20 hours	8–30 hours	14 hours after end of estrus
Bitch	180	24		21–28 days		
Cat	120			3–12 days		

STATE EXTENSION DIRECTORS

Consult these men about your garden and farm problems. They know the answers. *Courtesy Ralph M. Fulghum, Assistant Director, Information Services, U.S. Dept. of Agriculture, Washington, D.C. 20250.*
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Courtesy American Automobile Association

Auto Laws

1967

State	Max. Speed Open Hwy. (R–Reasonable)	Date Regis. Expires (Incl. Grace)	Driving License Minimum Age	Gasoline Tax	Pe Cent Sales Tax	Non-R. Days of Stay[1] (R–Reciprocal)	Min. Cost of Regis. (3M lbs.–100 HP)	Cost Term Driver's License	Chem. Test Law
Ala....	60–50N	11/15	16h	$.07	1½	30	$ 3.75	$4.25—2Y	B
Alaska.	50	5/31	16a	.08	—	90	30.00	5.00—3Y	B
Ariz...	50–45N	12/31	18f	.07	3	180[4]	6.25	2.50—3Y	A
Ark....	60	1/31	14ac	.075	3	10[5]	12.00	2.00—1Y	A
*Cal....	65	2/6	16f	.07	3†	[3]	10.00†	3.00—3Y	C
Colo...	60	2/28	21b	.06	3	30	7.10	2.25—3Y	A
*Conn...	60	[2]	16eft	.06	3½	60	10.00	6.00—2Y	C
Del....	60	[2]	16	.07	—	90	20.00	4.00—2Y	A
*D.C....	R	3/31	16a	.07	—	Rl	22.50	3.00—3Y	A
Fla....	65–55N	4/20	16ag	.07	2	R	22.22	3.00—2Y	B
*Ga.....	60–50N	4/1	16h	.065	3	30	5.00†	2.50—2Y	A
Haw...	45	3/31	15i	.085–11	—	10 or[3]	15.00†	3.00	A
Ida....	60–55N	12/31	16g	.06	3	—	17.50	6.00—3Y	C
*Ill.....	65	3/1	16k	.05	3½	R	22.50	3.00—3Y	A
*Ind....	65	2/28	16†	.06	2	60	12.00	1.50—2Y	A
*Iowa...	70–60N	1/31	16g	.07	2	R	12.00†	5.00—2Y	C
*Kan...	70–60N	2/15	16g	.05	3	R	10.00	3.00†	C
Ky.....	60–50N	3/1	16a	.07	3	R	5.00	2.00—2Y	A
La.....	60	[2]	15	.07	2	R	6.00–2Y	2.50—2Y	B
Me....	45	2/28	15h–17	.07	4	R	15.00	5.00—2Y	A
*Md....	55	3/31	16k	.07	3	30	15.00	7.00—2Y	A
Mass...	R	12/31	16½fa	.065	3	R	6.00	5.00—2Y	A
*Mich...	65–55N	2/28	16afg	.06	4	90	10.50	5.50—3Y	A
*Minn..	65–55N	3/1	16ef	.06	—	R	5.25†	3.00—4Y	C
*Miss...	65	10/31	15	.07	2	30	12.00	2.50—1Y	B
*Mo....	65–60N	[2]	16j	.05	3	—	37.50	2.00—3Y	C
Mont..	R–55N	2/15	15ae	.06	1½†	60	10.50	4.00—2Y	A
*Nebr...	65–60N	2/28	16gm	.075	—	R	9.00	3.00—2Y	C
Nev....	R	12/31	16n	.06	2	[3]	5.50	3.00—5Y	A
N.H...	50	3/31	17f	.07	—	R	15.00	10.00—2Y	C
N.J....	50	[2]	17o	.06	3	60	15.00	3.00—1Y	C
*N.M...	70–60N	3/2	18jq	.06	—	—	30.00†	3.25—2Y	B
*N.Y...	50	[2]	18bp	.06	2	R	22.50	5.00—3Y	C
*N.C....	65	2/15	16af	.07	1½	R	10.00	2.50—4Y	D
N.D....	60	12/31	16u	.06	2¼	R	32.00	3.00—1Y	C
Ohio...	60–50N	4/15	16e	.07	3	R	10.00	.75—3Y	B
Okla...	65–55N	3/2	16d	.065	2	60	19.50†	4.00—2Y	B
Ore....	55	[2]	16g	.06	—	[3]	10.00	3.00—2Y	C
Pa.....	50	3/31	18b	.07	5	R	10.00	4.00—2Y	A
*R.I....	50–45N	3/31	16	.07	4	R	11.00	8.00—2Y	C
S.C....	60–55N	10/31	16h	.07	3	—	5.30	2.00—4Y	A
S.D....	70–60N	3/31	16g	.06	—	60	17.00	3.00—4Y	C
*Tenn...	65–55N	3/31	16g	.076	3†	30	13.25	4.00—1Y	A
Tex....	70–65N	4/1	16g	.05	2	R	11.88	3.00—2Y	B
Utah...	R	2/28	17	.06	3½	—	6.00	3.00—3Y	C
*Vt.....	50	2/28	18b	.065	3	R	32.00	3.00—1Y	C
*Va.....	55	4/15	18ad	.07	2	60	15.00	6.00—3Y	C
*Wash..	60	1/30	16d	.075	4.2	60	8.60†	4.00—2Y	A
W.Va..	55	6/30	16as	.07	3	30	20.00	5.00—4Y	A
*Wis....	65–55N	[2]	16g	.07	3	R	18.00	2.50—2Y	A
Wyo...	65	3/1	16st	.05	3	15	7.50	2.50—3Y	A

[1]Applies to non-residents. "Reciprocal" means same as home state. Those intending permanent residence must buy new plates and secure new driving license at once. Employment or placing children in public school is to reside permanently. [2]Staggered. [3]Until expiration of home registration. [4]Visitor's permit req. after 10 days. [5]Visitor's permit after 30 days.

(A). State has drunken driving test law. (B). State does not. (C). Law with imp. cons. prov. (D). Same but refusal doesn't auth. license susp.

(a) Under 18 must have consent of par or guard; (b) Jr. p'mt 16; (c) 14–16 need accompaniment by lic. op.; (d) Instruction p'mt 15½; (e) Provisional license to 21; (f) 16–18 app. must have completed driver course; (g) Jr. p'mt 14; (h) Learner's p'mt 15; (i) Under 20 need par./guard consent; (j) Jr. P'mt 15; (k) Under 21 need par./guard consent & proof of fin. responsibility; (l) Visitor's permit req. if stay over 14 days; (m) 14–16 accomp. by lic. driver over 21; (n) With consent of par./guard.; (o) 16 for agric. pursuits; (p) Exc. some cities; (q) Provisional lic. 16–18; (r) 15½ if drive course comp.; (s) Under 21 birth certif. or par. sig. req.; (t) Learner's permit not req.; (u) Jr. permit 13–15.

†Plus various adj. *Seat belts req.

FEBRUARY'S FIVE SUNDAYS

A writer in the Cleveland Leader answers a query as to when we shall have another February with five Sundays. He says: "There are five Sundays in the month of February this year of 1880—something that will not occur again for 40 years. The years containing five Sundays in February recur in regular order every 400 years. The order is as follows: Three times with intevals of 28 years each, and then comes one after an interval of 40 years; then two with intervals of 28 years each, then one after 40 years, then two after intervals of 28 years each, and then there is an interval of 40 years before another such year. This is followed by three intervals of 28 years each. This will occupy 400 years, and then the same order will come round again. The following are the years that have had and will have five Sundays in February during the present period of 400 years: 1604, 1632, 1660, 1688, 1728, 1756, 1784, 1824, 1852, 1880. 1920, 1948, 1976, 2004. The following are the conditions necessary in order that five Sundays may happen in February: First, the year must be a leap year; second, the first day of January must fall on Thursday. February 1866 had no full moon. This never occurred before and will not reoccur for 2,500,000 years. Pope Gregory XIII made a new rule for leap years. It is as follows: The leap years are, first, those whose numbers are exactly divisible by 4 and not by 100; second, those whose numbers are divisible by 400 and not by 4000.

GLOSSARY OF ASTRONOMICAL TERMS, ETC.

Aph. — Aphelion . . . Planet revolving about Sun reaches point in its orbit farthest away from the Sun.

Apo. — Apogee . . . Moon reaches point in its orbit farthest from Earth.

Conj. — conjunction . . . moment of closest approach to each other of any two heavenly bodies.

Declination (see top left hand calendar pages) . . . measure of angular distance any celestial object lies perpendicularly north or south of celestial equator. Exactly analogous to terrestrial latitude. OFA gives declination at time each day the Sun is due South.

El. — elongation . . . apparent angular distance of a member of the solar system from the Sun as seen from the Earth.

Inf. — Inferior . . . Inferior conjunction is when the Planet is between the Sun and the Earth.

Moon Runs High or Low . . . day of month Moon Souths highest or lowest above the horizon.

Occulted . . . hidden from view.

Opposition . . . time when Sun, and Moon or Planet appear on opposite sides of the sky (elongation 180 degrees).

Peri. — Perigee . . . Moon reaches point in its orbit closest to Earth.

Peri. — Perihelion . . . Planet revolving about the Sun reaches point in its orbit closest to Sun.

R.A. — Right Ascension . . . the measure Eastward along the celestial equator of any celestial body from the vernal equinox to the point where the circle which passes through the object perpendicular to the celestial equator intersects the latter.

Stat. — stationary . . . when the apparent movement of a Planet against the background of Stars stops — just before same comes to opposition.

Sunrise and **Sunset . . .** visible rising and setting of Sun's upper limb across the unobstructed horizon of an observer whose eyes are 15 feet above ground level.

Sun Fast . . . the times given in this column must be subtracted from your Sun Dial to arrive at the correct time.

Sup. — Superior . . . Superior Conjunction is when the Sun is between the Planet and the Earth.

Twilight . . . begins or ends when stars of the sixth magnitude disappear or appear at the Zenith — or the Sun is appr. 18 degrees below the horizon.

Underground Moon . . . one which changes its phases between 12 M. and 1 A.M.

Continued from page 18

At Denver, Col., 37.7" snow fell (over 100" was predicted). The Mountain States, however, did (see page 103 last year's Almanac) receive a lot more snow than the Denver station indicates.

Finally, Atlanta, Ga. (for which Abe omitted Nov. and Dec. as Atlanta really has no Winter) had 12.25" of rain during Jan.-Feb.-Mar., whereas Abe had looked for 17".

MASSACHUSETTS TURNPIKE: G. G. Hyland, Maintenance Engineer of the Massachusetts Turnpike (Boston-Lee) has again sent us his record of snowstorms from Nov., 1966 through May, 1967. Total accumulation at Boston was 70" — at Weston, 82" (which compares favorably with Abe's 89" for Blue Hill) — at Lee 116". There were 19 storms at Boston; 31 at Lee. The seven storms of 5" or more occurred on Christmas Day, Feb. 6, 7, Mar. 7, 16, 21, 22. Of the 34 stormy days on which MTA crews should have been alerted, Old Abe predicted 19 correctly, 4 a day early. The other 11 he missed — making his average close to 70%.

The foregoing comparisons between Abe's forecasts and the actuallties may seem ridiculous. Many are so far off you may ask, "Why bother?" To this we reply, "Abe tries to make an honest forecast, and we try to give you an honest verification."

WINNERS OF THE 1967 ESSAY CONTEST

(See page 120, 1967 OFA) were: Mrs. Mullin (1st, $25.00); Diane Bewersox, New Bethlehem, Pa. (2nd, $15.00); Mrs. Kathryn Cunningham, New Matamoras, Ohio (3rd, $5.00).

The Winning Essay

"THE LARGEST VEGETABLE"

Beneath a well-watered deep mulch of grass clippings on a three-foot square spot. I daily buried table scraps, vegetable, fruit and flower wastes, manure from our two dogs, and ashes from the burning can where meat scraps and bones were burned with paper and wood.

For three weeks I let it lay, soaking the plot twice weekly. Then I planted my enriched site, using whole red "seed" potatoes, nine inches apart.

We enjoyed "new" potatoes for weeks before harvesting two buckets full of fine potatoes, including three over-sized specimens, measuring over fifteen inches around.

Mrs. Arlene Mullin, Oceano, Calif.

1968 ESSAY CONTEST

For 1968, the money will go (1st, $25.00 — 2nd, $15.00 — 3rd, $5.00) for the best 100-word essay on "How I Protect My Garden from Bugs and Predators." **Contest closes May 1, 1968.**

No entries returned; all become property of Yankee, Inc., which reserves all rights in the material submitted. Case of tie, place money lumped and divided. Staff of YANKEE, final judge. Winners announced 1969 OFA.

Address: Essay Contest, Yankee, Inc., Dublin, N.H. 03444.

ANSWERS TO CHARADES, ETC. ON PAGE 85

(1) Mistake. (2) Mother Goose Melodies. (3) "Be upright and honest, industrious and wise. Abounding in virtue, abandon all vice." (Bee upright & on est in duster ious & y's A bound in G in virtue ab & on awl vise). (4) Stone. (5) By waiting 'til the bird had flown away. (6) Your little toe. (7) The vowels: a, e, i, o, u. (8) The letter M. (9) "A simple maiden in her flower is worth a hundred coats of arms." (Ace imp ell maiden in HER flower is W. earth a hundred coats of arms). (10) Horse. (11) Weather. (12) The letter "a" (it makes her hear). (13) "Least said soonest mended." (Least said soo nest men ded). (14) C-lad, D-ark, B-right, C-art, H-ash.

ANSWERS TO OLD-FASHIONED PUZZLES ON PAGE 84

(1) The rope is 5 feet long and the monkey is 1½ years old. (2) October 1, 1981. (3) The innkeeper was forced to entertain his guests for 110 years and 142 days. During that time, the eight gentlemen assumed 40,320 different positions at meals. (Such is the price of ignorance.) (4) 384. (5) One square foot. (6) Smith. (7) 21 minutes and 49-1/11 seconds after 10.

THE NINEPENNY PIECE

(Author and woodcut artist unknown)

■ ON A BEAUTIFUL morning in summer, Mrs. Thornton rose earlier than usual and awoke her son and daughter. She then informed Francis that he could see the fair, which was to be held in a nearby village where one of his aunts resided. The heart of little Francis palpitated with joy at this grand intelligence. Attired in a morniug habit, with little sister Emma by her side, Mrs. Thornton accompanied him a considerable way on the road, till they reached the shade of a beautiful tree, where she sat down and gave Francis particular directions regarding his conduct at his aunt's, and as he passed through the fair. Then she bade him farewell, and Francis went happily off.

A poor old blind man, who had been very unfortunate, was seated on the road-side, and raised his plaintive voice whenever he heard any one approaching. He had nothing to support him but the alms of

such passengers as came that way, many of whom bestowed their charity; while others, who had nothing to give, would generally say "God help you!" The good man prayed equally for those who assisted him and those who recommended him to God.

Francis stopped opposite to the blind man, and looked at him with great compassion. "Poor man!" said he to himself, "you can neither see beautiful fields nor the sun. It is just the same as when I open my eyes in a very dark night; and this poor mau cannot do auy thing for himself, and must die with hunger if he is not assisted. O how sorry I am that I have not anything to give him! Wheu I grow a man, if I am rich enough, I will give alms to all the poor people I meet." He again looked compassionately at the blind man, and on

going away, cried "God bless you, my good man!" "I am much obliged to you, my child," replied the poor man; "may God bless you also, and give you grace to become a good man."

The wish of the old man sensibly affected the heart of the child, and a tear trickled down his cheek. "O how unfortunate I am," he said, "in not having any thing to give him!" At length he approached the village, and began to hear some children who were dancing under a large elm-tree, when he saw upon the road a piece of money

half covered with dust. He instantly stooped down to pick it up, and found it was a ninepenny piece. His heart leaped for joy, and his first thought was of the blind man. "Suppose I run and give him this ninepenny-piece," said he; he turned about, and reflected that if he went with expedition he could be there in five minutes. That he could easily do; and when it is to do a good action one should never think of the time.

He hesitated a little, however, and reflected that with this ninepiece he might buy something at the fair, and it was a melancholy thing to walk between rows of booths without being able to spend even ninepence—and it would appear so very shabby to have an empty pocket. "Yes," said he; "but then this poor man perhaps has nothing to buy his dinner with, and ninepence would be sufficient to get him bread for the day, while I shall be nicely feasted at my aunt's. Come, I will carry the ninepence to the poor old man; for certainly I have no right to it." He still hesitated about taking it to the poor man, for it was so long since he was in possession of ninepence.

While the little simpleton was hesitating between the pleasure of doing good to an unfortunate fellow-creature and that of satis-

fying a foolish fancy, a number of children about his own age came up, hallooing and jumping after a show-man, who was carrying a large show-box on his shoulders. He quickly joined the party, and followed the show-man. The man soon fixed his stage, and began to perform a little, to attract the crowd. When the crowd was sufficiently great, he announced a much more magnificent show. This was the **magic lantern**, where for ninepence they might see wonders, such as kings, queens, and great men, also the principal cities in the world. This was sufficient to tempt children even less curious than Francis.

While they entered in crowds, this foolish boy remained in a state

of indecision at the door, turning in his pocket the precious piece of money. The man insisted on every one to walk in, and the more to touch their pride, he concluded every intimation by crying with all his might—"Yes, gentlemen, to deprive yourselves of such a sight, you

must certainly be without ninepence in your pocket. Yes!" said he, with still greater emphasis, "you must positively be without ninepence in your pocket." He then by chance looked at Francis, who immediately thought it must be himself only whom the man addressed; and determined to let them see that he was not so poor, he took out his money and entered with the others. The fine show lasted only a quarter of an hour, and the child came out as poor as he was before he had found the ninepence.

The remembrance of the blind man considerably disturbed the pleasure which he enjoyed, and he went quite dejected to his aunt's, saying, in order to reconcile his conscience, "She will certainly give me some money for the fair, which I will not spend, that I may give it to the poor man as I return home."

But things did not turn out as he expected. His aunt treated him, as he had anticipated, with all sorts of dainties. She gave him no money, but bought him at the fair some marbles and a trumpet, and sent him away, cautioning him not to stop or play by the road. He

was at first very pensive, but soon he took out his trumpet, and began to blow with all his might; when he found himself at a little distance from the blind man, however, he did not blow so strongly, and before he reached him, put up his trumpet. He even went on the other side of the way, and walked as if afraid of being heard; but the blind man, whose hearing was very quick, did not let him pass, without presenting to him the same petition as before; "Please to bestow your charity on a poor blind man, who has no other means of subsistence but from your beneficence." His words touched the child to the heart, and he durst not answer, but went away as dis-

satisfied with himself as if he had stolen the ninepence from the unfortunate man.

This uneasiness was renewed whenever he passed that way, whether the blind man was there or not; and it lasted until such time as he had the happiness of carrying him ninepence, which he amassed with great care, by a cent at a time. "Thank God," said he, with an effusion of joy, "I can now pass by him, and pray to God to bless him."

These reflections made such an impression on the heart of this child, that he was ever afterwards fearful of laying out his money on trifles, lest he should meet with some object whom he might wish to relieve, and by his extravagance be deprived of that pleasure.

Postal Laws

Correct as of May 1, 1967. Proposed new rates will undoubtedly take effect long before 1968 rolls around. Letters will probably go up to 6c, postals to 5c, airmail to 9c, air cards to 7c. As we have no way of knowing what Congress will do about these increases, all we can do is give you the rates as they are at our press date of June 1, 1967. Parcel post probably won't change too much.

First Class Matter may be forwarded from one Postoffice to another without additional postage but other matter must have new postage.

LETTERS AND POSTAL CARDS. — FIRST CLASS.

Letters and Written and Sealed Matter, 5 cents for each ounce, local and non-local except that drop letters are subject to 4 cents for each ounce when deposited for local delivery at offices not having letter-carrier service, provided they are not collected or delivered by rural or star-route carriers.

Postcards and Private Mailing Cards (max. 4 ¼" x 6"; min. 3" x 4 ¼") ..... .04

Government Postal Cards, each..... .04

Stamped 5 cent Envelopes No. 10—$29.20, 500—$58.40, 1000.

Business Reply Cards 6 cents, Business Reply 1 oz. letters 7 cents.

NEWSPAPERS AND PERIODICALS. — SECOND CLASS.

Entire Newspapers or Magazines containing notice of second class entry when mailed by public unsealed, 4 cents for 1st two ounces, 1 cent each added 1 oz. Fourth Class Rate applies when it is lower than Second Class.

MERCHANDISE AND MISCELLANEOUS. — THIRD CLASS.

(Limit of weight up to but not including 16 ounces)

Merchandise, incomplete copies of newspapers, printed and other mailable matter unsealed, 4 cents for first two ounces, 2 cents each add'l ounce-limit 16.

Identical pieces of third-class matter may be mailed under permit in bulk lots of not less than either 50 pounds or 200 pieces, at the rate of 18 cents a pound, or fraction thereof in case of circulars, miscellaneous printed matter, and merchandise, and 12 cents a pound, or fraction thereof, in the case of books or catalogs having 24 pages or more, seeds, plants, etc., with a minimum charge of 2 ½c a piece in either case. Apply to postmaster for permit. The bulk mailing fee is $30 per calendar year.

Books, catalogs (must be of 24 or more pages and substantially bound, with at least 22 pages printed, seeds, cuttings, bulbs, roots, scions and plants, 2 ounces or fraction 4 cents, each added ounce 2 cents.)

Circulars and other miscellaneous printed matter, also merchandise, 4 cents for the first 2 ounces and 2 cents for each additional oz.

PARCEL POST. — FOURTH CLASS.

(16 oz. or over, incl. books, ptd. matter, except 1st class and second class papers mailed by publishers)

Catalogs and Similar Printed Advertising Matter, in bound form having 24 or more pages, weighing 16 ounces but not exceeding 10 pounds. (See Postmaster)

ZONES, Wgt. 1 lb.	Local	1st & 2nd	3rd	4th	5th	6th	7th	8th
And not over 1.5 lbs.	23c	29c	30c	31c	33c	35c	38c	41c
And not over 10 lbs.	39c	54c	60c	69c	89c	95c	1.12	1.29

Books: 10 cents for the first pound or fraction thereof and 5 cents for each additional pound or fraction thereof—24 or more pages permanently bound, not to exceed 70 lbs. Also incl. sound recordings. Also incl., when marked "Special Fourth-Class Rate," ptd. music, 16 mm. films and 16 mm. film catalogs (Exc. to commercial theatres), objective test material, sound recordings and mss. for books, periodical articles and music.

Library Books: 4 cents for the first pound or fraction thereof and 1 cent for each additional pound or fraction thereof—limit of weight 70 pounds—when sent by public libraries, organizations, or associations not organized for profit.

Weight Limits: 70 lbs. and 100 inches combined length and girth—except between 1st Class postoffices (Postmaster has list) where limits are: In zones 1 and 2, 40 lbs. with 72 inch combined length and girth, other zones 20 lbs. and 72 inch combined length and girth. Parcels over 84 but under 100 inches combined length and girth charged as 10 pounds.

Wt. 1 lb. but not over	LOCAL	1-2 Up to 150 miles	3 150 to 300 miles	4 300 to 600 miles	5 600 to 1000 miles	6 1000 to 1400 miles	7 1400 to 1800 miles	8 Over 1800 miles
2	$0.40	$0.50	$0.50	$0.55	$0.60	$0.70	$0.75	$0.80
3	.40	.55	.60	.65	.75	.85	.95	1.05
4	.45	.60	.65	.75	.85	1.00	1.10	1.25
5	.45	.65	.70	.80	.95	1.10	1.30	1.45
6	.45	.70	.80	.90	1.05	1.25	1.45	1.65
7	.50	.80	.85	1.00	1.15	1.40	1.60	1.85
8	.50	.85	.90	1.05	1.30	1.50	1.75	2.00
9	.55	.90	.95	1.15	1.40	1.65	1.90	2.20
10	.55	.95	1.05	1.20	1.50	1.75	2.10	2.40
11	.55	1.00	1.10	1.30	1.60	1.90	2.25	2.60
12	.60	1.05	1.15	1.35	1.70	2.00	2.40	2.75
13	.60	1.10	1.20	1.45	1.80	2.10	2.55	2.95
14	.65	1.15	1.30	1.50	1.90	2.25	2.70	3.10
15	.65	1.20	1.35	1.60	2.00	2.35	2.85	3.30
16	.65	1.25	1.40	1.65	2.10	2.45	3.00	3.45
17	.70	1.30	1.45	1.75	2.20	2.60	3.15	3.65
18	.70	1.35	1.50	1.80	2.30	2.70	3.30	3.80
19	.75	1.40	1.60	1.90	2.40	2.85	3.45	4.00
20	.75	1.40	1.65	1.95	2.50	2.95	3.60	4.15
50	1.30	2.60	3.05	3.90	5.05	6.25	7.80	9.15

SPECIAL CLASSES. — DOMESTIC MAIL.

Special Delivery: First Class Mail: Each piece under 2 lbs.—30c, over 2 up to 10—45c, over 10 lbs.—60c. Same for air, incl. air p.p.
Parcel Post: Up to 2 lbs.—55c; over 2 up to 10—65c; over 10 lbs.—80c.

Special Handling: Parcel Post only: Up to 2 lbs.—25c, over 2 lbs. up to 10—35c, over 10 lbs.—50c. (This service expedites mail but does not include special delivery.)

Registered Mail: Up to $100—75c; over $100 up to $200—$1.00; over $200 up to $400—$1.25; over $400 up to $600—$1.50; over $600 up to $800—$1.75; over $800 up to $1000—$2.00. There are special surcharges when declared values exceed indemnities—see local Postmaster about these.

Insured Mail: Third and Fourth Class Only: Indemnity up to $15—20c; over $15 up to $50—30c; over $50 up to $100—40c; over $100 up to $150—50c; over $150 to $200—60c.

C.O.D.: Indemnities up to $10—60c; over $10 up to $25—70c; over $25 up to $50—80c; over $50 up to $100—90c; over $100 up to $200—$1.00. Registered C.O.D., 60c fee plus registration fee based on value of article.

Money Orders: Limit for each is $100. If amount of money order is from 1c to $10 the fee is 25c, from $10.01 to $50 the fee is 35c, from $50.01 to $100 the fee is 40c.

Certified Mail: First class only having no value, add 30c to postage plus (a) 10c for return receipt showing to whom and when delivered; (b) 35c for whom, when, and address where delivered; (c) 25c for request after mailing showing to whom and when delivered. Obtain blank coupons from Postmaster.

POSTAL RATES: International

SURFACE RATES

Letters: To Canada and Mexico, 5c per oz. To all other countries, 13c for the first oz. and 8c each additional oz.

Postcards: To Canada and Mexico, 4c each; 8c reply-paid. To all other countries, 8c each, 16c reply-paid. Maximum size 6 x 4 ¼ inches, minimum size 4 ¼ x 3 inches.

Printed Matter: In general, to Canada and Mexico, 4c first 2 oz. 2c each additional oz.; all other, 6c first 2 oz. 4c each additional 2 oz. Books and sheet music, to countries of the Postal Union of the Americas and Spain, exc. Spain and Spanish possessions, 3c first 2 oz.; 1c each additional 2 oz.; all other (inc. Spain and poss.) 4c first 2 oz.; 1 ½c each additional 2 oz. Publishers' second class, P.U.A.S. countries, 3c first 2 oz., 1c each additional 2 oz., all other, 4c first 2 oz.; 1 ½c each additional 2 oz.

Samples of Merchandise: To Canada and Mexico, 4c first 2 oz.; 2c each additional oz. Minimum charge 10c. All other, 6c first 2 oz.; 4c each additional 2 oz. Minimum charge 13c.

Matter for the Blind: All countries, domestic rates apply with certain exceptions.

Small Packets: All countries, 6c each 2 oz. Minimum charge, 26c.

Merchandise Packages to Canada: Packages of 8 ounces or less, 10c for 5 oz., 12c for 6 oz., 14c for 7 oz. and 16c for 8 oz.

Registration, Insurance, Return Receipts: For detailed information concerning these services, consult your local Postmaster.

SURFACE PARCEL POST RATES

Zone **1:** N. America, C. America, Caribbean Is. — $1.00 first 2 lbs., 30c each additional lb.

Zone **2:** All other countries — $1.10 first 2 lbs.; 35c each additional lb.

AIR MAIL RATES: Domestic and International

Air Mail Letters: *DOMESTIC:* United States, Canada, Mexico, 8c per oz.

INTERNATIONAL: Central America, South America, the Caribbean islands, Bahamas, Bermuda, and St. Pierre and Miquelon, 15 cents per HALF oz.; Europe (except Estonia, Latvia, Lithuania, and U.S.S.R.) and Mediterranean Africa, 20 cents HALF oz.; other countries, 25 cents HALF oz.

"Other Articles": United States, Canada, 8c per oz.; Mexico, Central America, the Caribbean islands, Bahamas, Bermuda, and St. Pierre and Miquelon, 40 cents first 2 oz. and 10 cents each additional 2 oz. or fraction; South America, Europe, (except Estonia, Latvia, Lithuania, and U.S.S.R.), and Mediterranean Africa, 50 cents first 2 ounces and 30 cents each additional 2 oz. or fraction; other countries, 60 cents first 2 oz., 30c each additional 2 oz.

Post Cards and Aerogrammes (air letter sheets): Cards, United States, Canada and Mexico, 6c each (single). All other, 13c each (single). Aerogrammes, 13c each.

Air Parcel Post: For detailed information, consult your local Postmaster.

Poe's portrait engraved by G. Tietze from a daguerreotype owned by T. J. McKee.

THE RAVEN

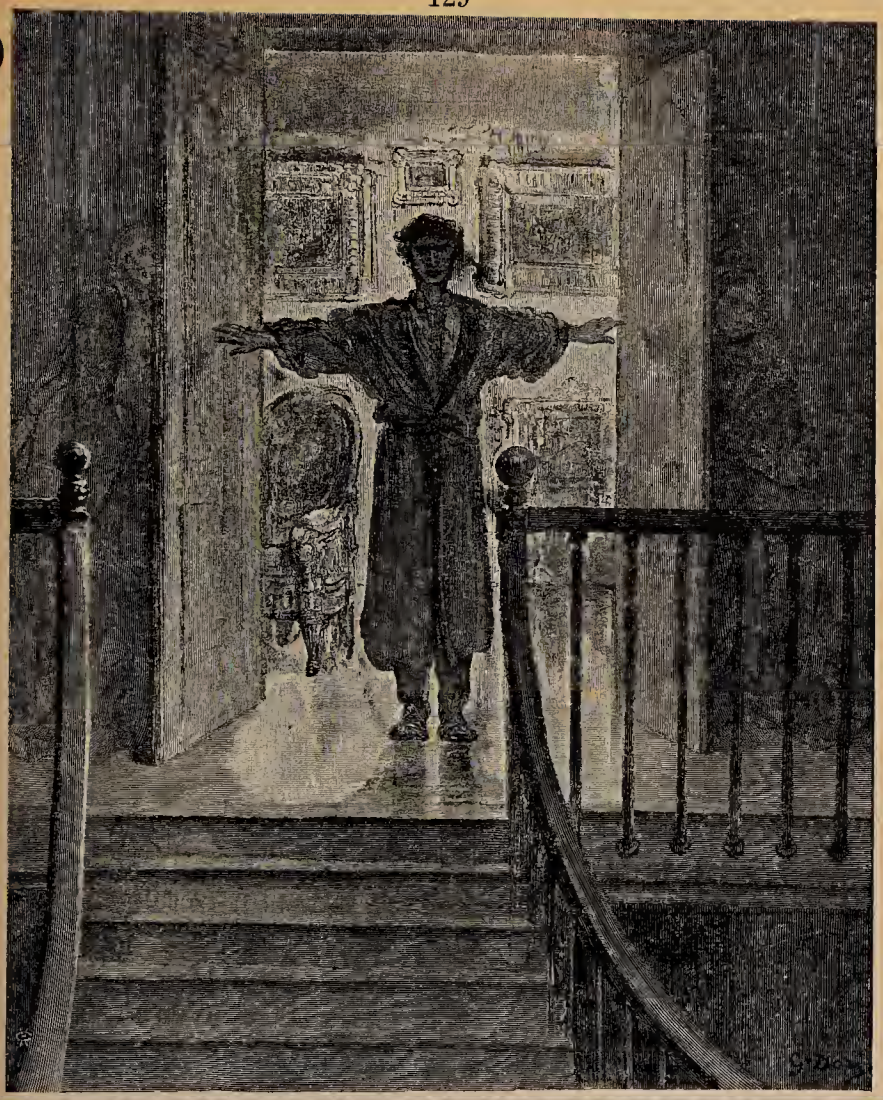
by Edgar Allen Poe

was first published in *Graham's Magazine* in New York in February 1845. It won lasting fame. In 1884, Harper & Brothers selected this poem for a Christmas presentation book—illustrated by Gustave Dore. Some of these illustrations appear herewith. The poet's young wife, Virginia, was fading before his eyes when "The Raven" was being written. This may have inspired Poe's theme, "the irretrievable loss of an idolised and beautiful woman" (Lenore). Born in 1809 to a life of almost complete suffering and misery, Poe died in 1849. He was elected to the Hall of Fame in 1910.

Once upon a midnight dreary, while I pondered, weak and weary,
Over many a quaint and curious volume of forgotten lore,—
While I nodded, nearly napping, suddenly there came a tapping,
As of some one gently rapping, rapping at my chamber door—
"'T is some visitor," I muttered, "tapping at my chamber door—
Only this, and nothing more."

Ah, distinctly I remember it was in the bleak December,
And each separate dying ember wrought its ghost upon the floor.
Eagerly I wished the morrow;—vainly I had sought to borrow
From my books surcease of sorrow—sorrow for the lost Lenore—
For the rare and radiant maiden whom the angels name Lenore—
Nameless here for evermore.

And the silken sad uncertain rustling of each purple curtain
Thrilled me—filled me with fantastic terrors never felt before;
So that now, to still the beating of my heart, I stood repeating
"'T is some visitor entreating entrance at my chamber door—
Some late visitor entreating entrance at my chamber;—
This it is, and nothing more."



Presently my soul grew stronger; hesitating then no longer,
"Sir," said I, "or Madam, truly your forgiveness I implore;
But the fact is I was napping, and so gently you came rapping,
And so faintly you came tapping, tapping at my chamber door,
That I scarce was sure I heard you"—here I opened wide the door;—
Darkness there, and nothing more.

Deep into that darkness peering, long I stood there wondering, fearing,
Doubting, dreaming dreams no mortal ever dared to dream before;
But the silence was unbroken, and the darkness gave no token,
And the only word there spoken was the whispered word, "Lenore!"
This I whispered, and an echo murmured back the word, "Lenore!"
Merely this and nothing more.

Back into the chamber turning, all my soul within me burning,
Soon again I heard a tapping, somewhat louder than before.
"Surely," said I, "surely that is something at my window lattice;
Let me see, then, what thereat is, and this mystery explore—
Let my heart be still a moment and this mystery explore;—
'T is the wind and nothing more!"

Open here I flung the shutter, when, with many a flirt and flutter,
In there stepped a stately Raven of the saintly days of yore.
Not the least obeisance made he; not a minute stopped or stayed he;
But with mien of lord or lady, perched above my chamber door—
Perched upon a bust of Pallas just above my chamber door—
Perched, and sat, and nothing more:

Then this ebony bird beguiling my sad fancy into smiling,
By the grave and stern decorum of the countenance it wore,
"Though thy crest be shorn and shaven, thou," I said,
"art sure no craven,
Ghastly grim and ancient Raven wandering from the Nightly shore,—
Tell me what thy lordly name is on the Night's Plutonian shore!"
Quoth the Raven, "Nevermore."

Much I marvelled this ungainly fowl to hear discourse so plainly,
Though its answer little meaning—little relevancy bore;
For we cannot help agreeing that no living human being
Ever yet was blessed with seeing bird above his chamber door—
Bird or beast upon the sculptured bust above his chamber door,
With such name as "Nevermore."

But the Raven, sitting lonely on the placid bust, spoke only
That one word, as if his soul in that one word he did outpour.
Nothing further then he uttered—not a feather then he fluttered—
Till I scarcely more than muttered, "Other friends have flown before—
On the morrow *he* will leave me, as my hopes have flown before."
Then the bird said, "Nevermore."

Startled at the stillness broken by reply so aptly spoken,
"Doubtless," said I, "what it utters is its only stock and store,
Caught from some unhappy master whom unmerciful Disaster
Followed fast and followed faster till his songs one burden bore—
Till the dirges of his Hope that melancholy burden bore
Of 'Never—nevermore.'"

But the Raven still beguiling all my sad soul into smiling,
Straight I wheeled a cushioned seat in front of bird and bust and door;
Then, upon the velvet sinking, I betook myself to linking
Fancy upon fancy, thinking what this ominous bird of yore—
What this grim, ungainly, ghastly, gaunt and ominous bird of yore
Meant in croaking "Nevermore."

This I sat engaged in guessing, but no syllable expressing
To the fowl whose fiery eyes now burned into my bosom's core;
This and more I sat divining, with my head at ease reclining
On the cushion's velvet lining that the lamplight gloated o'er,
But whose velvet violet lining with the lamplight gloating o'er
She shall press, ah, nevermore!

Then, methought, the air grew denser, perfumed from an unseen censer
Swung by seraphim whose foot-falls tinkled on the tufted floor.
"Wretch," I cried, "Thy God hath lent thee—by these angels
he hath sent thee
Respite—respite and nepenthe from thy memories of Lenore!
Quaff, oh quaff this kind nepenthe, and forget this lost Lenore!"
Quoth the Raven, "Nevermore."

"Prophet!" said I, "thing of evil!—prophet still, if bird or devil!—
Whether Tempter sent, or whether tempest tossed thee here ashore,
Desolate yet all undaunted, on this desert land enchanted—
On this home by Horror haunted—tell me truly, I implore—
Is there—*is* there balm in Gilead?—tell me—tell me, I implore!"
Quoth the Raven, "Nevermore."

"Prophet!' said I, "thing of evil—prophet still, if bird or devil!
By that Heaven that bends above us—by that God we both adore—
Tell this soul with sorrow laden if, within the distant Aidenn,
It shall clasp a sainted maiden whom the angels name Lenore—
Clasp a rare and radiant maiden whom the angels name Lenore."
Quoth the Raven, "Nevermore."

"Be that word our sign of parting, bird or fiend!"
I shrieked, upstarting—
"Get thee back into the tempest and the Night's Plutonian shore!
Leave no black plume as a token of that lie thy soul hath spoken!
Leave my loneliness unbroken!—quit the bust above my door!
Take thy beak from out my heart, and take thy form from off my door!"
Quoth the Raven, "Nevermore."

And the Raven, never flitting, still is sitting, still is sitting
On the pallid bust of Pallas just above my chamber door;
And his eyes have all the seeming of a demon's that is dreaming,
And the lamplight o'er him streaming throws his shadow on the floor;
And my soul from out that shadow that lies floating on the floor.
Shall be lifted—nevermore!

WEDDING GIFTS

Anniversaries and types of gifts that mark their observance are listed below. The first is a traditional list recommended by social authorities. The second list was adopted in 1948 by the Jewelry Industry Council in cooperation with the Retail Jewelers of America, Inc., and the National Wholesale Jewelers.

TRADITIONAL–LIST	
YEAR	
1st	Paper
2nd	Cotton
3rd	Leather
4th	Fruit and Flowers, Silk
5th	Wooden
6th	Sugar and Candy, Iron
7th	Woolen or Copper
8th	Bronze or Copper
9th	Willow or Pottery
10th	Tin or Aluminum
11th	Steel
12th	Silk or Linen
14th	Ivory
15th	Crystal
20th	China
25th	Silver
30th	Pearl
35th	Coral
40th	Ruby
45th	Sapphire
50th	Golden
55th	Emerald
60th	Diamond
75th	Diamond

JEWELERS–LIST	
YEAR	
1st	Clocks
2nd	China
3rd	Crystal, Glass
4th	Electrical Gifts
5th	Silverware
6th	Wood
7th	Desk and Pen and Pencil Sets
8th	Linens, Laces
9th	Leather
10th	Diamond Jewelry
11th	Fashion Jewelry and Accessories
12th	Pearls or Colored Gems
13th	Textiles and Furs
14th	Gold Jewelry
15th	Watches
16th	Silver Holloware
17th	Furniture
18th	Porcelain
19th	Bronze
20th	Platinum
25th	Silver Jubilee
30th	Diamond
35th	Jade
40th	Ruby
45th	Sapphire
50th	Golden Jubilee
55th	Emerald
60th	Diamond Jubilee

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SHEPHERD'S BAROMETERS

Continued from page 10

You may sometimes see two clouds, one to the left, another to the right, which denotes a sudden shower.

When clouds float in a serene sky, you may expect winds, and if they rise from the south, depend on rain: and if you see them driving at sunset, come from what quarter they will, depend on a tempest approaching. Clouds that have a dusky hue, and move slowly, are laden with hail; if they have a blue cast, with large hail; if yellow, small.

The faster it rains, the sooner it will be over, and sudden rains never last long. But when the air grows thick, and the sun, moon and stars shine dim, then it is likely to rain six hours successively.

When it rains an hour or two before sun-rising, it generally clears before noon, and continues so the whole day: but if the rain set in an hour or two after sunrising, it generally rains all day, unless the rainbow appears a little before the rain begins and then it seldom lasts long.

When October and November are warm and rainy, January and February are frosty and cold; but if October and November be snow and frost, then January and February are open and mild.

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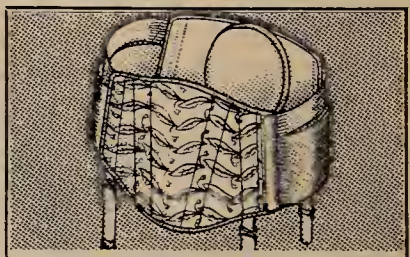

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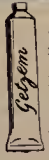

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Born in 1823, in Southbridge, Massachusetts, graduated from Dartmouth in 1846, he was admitted to the practice of law in 1851. After practicing for about 23 years, he retired "to devote himself to works of a public nature . . . without pecuniary reward."

Always fond of animals, he interfered personally in a number of cases for them long before his retirement. In fact, in 1864 he drew a will giving a good part of his property to circulate "information calculated to prevent cruelty to animals."

In 1868, in a race over rough roads between Brighton and Worcester, two horses were driven to death. Appalled, Mr. Angell appealed to his friends, to prominent citizens, and to Boston newspapers, to end this sort of cruelty for once and for all.

From the response he was able to found (and was granted a charter on March 23, 1868) the Massachusetts Society for the Prevention of Cruelty to Animals. Ten years later he started that Society's publication, **Our Dumb Animals.**

Thus George Angell became not only the first man in America to develop the full possibilities of a humane society, but also the one to establish the paper which, continually published every year since, has made the S. P. C. A. revered in every American household.

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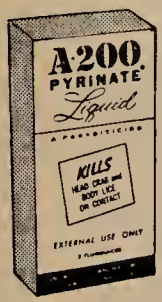

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ORIGIN OF "O.K."

President Andrew Jackson established a precedent in these United States by endorsing the public documents of which he approved with the symbol letters "O.K." Seba Smith of Maine (also known as Major Jack Downing) jokingly referred to this endorsement as an ignorant spelling error, on the part of the President, of "all correct" (oll korrect). Seba had a point, as President Jackson was not exactly a man of letters. However, Jackson was more right than Smith.

Jackson, a General before he was President, borrowed this expression from the Choctaw Indians. In the language of the Choctaws there is no verb "to be." As a substitute for this "to be" the Choctaws ended every assertion with an emphatic "OKEH."

For example, the English sentence, "The Choctaw Indian is a good fellow" would be in Choctaw: **Hattak uppeh hoomah chahtah achookmah okeh.** (Man body red Choctaw good is correct.) This "okeh" is the Choctaw verb of assertion "It is so" — "It is all right" — etc.

Jackson adopted this symbol at an early age. As an attorney, at age 23, in Sumner County, Tennessee, he is said to have written in his own hand the following court record:

"October 6, 1790, Andrew Jackson, Esq., proved a bill of sale from Hugh McGary to Gasper Mansker, for a negro man, which was O.K."

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MYSTERIOUS EVENT, 1912

My father lost two fingers in a wood-sawing accident in 1897. He kept the severed fingers in a small bottle of alcohol, because he wanted to have them buried with him. He kept the bottle on a cellar window sill. The window was screened with a clump of lilac brush. People seldom went into that part of the cellar.

During the summer of 1912, I threw a stone and broke a corner of this window's pane. Since my mother had not yet heard about the traumas, the complexes, or the thwarted egos that a solid smack on the seat of the pants could create, I neglected to mention the broken window.

As cold weather set in my father began complaining that his removed fingers were cold and nothing he could do would relieve them. My mother tried in vain to convince him that it was impossible for fingers in a 15-year pickle of alcohol to feel anything. He continued to complain and she continued to poohpooh the whole idea.

One cold day she went into the back cellar. Feeling a draft of icy air, she investigated and discovered the broken window. The hole was directly behind the bottle of fingers.

Without saying anything to anyone, she took the fingers upstairs and put them in a bureau drawer in a warm bedroom. My father never mentioned cold fingers again. A few days later she sent the hired man to replace the pane of glass, so my father had no idea that the fingers had been moved.

Years later she told us about the incident.

My father died in 1936. As we left the house to go to the funeral, my brother-in-law asked us which one had given the fingers to the undertaker. Not one of us had thought of them. Bill dashed back in the house, got the fingers, and surreptitiously dropped them into the casket as he walked past it for the last time.

Courtesy Helen McDivitt, Hobart, N.Y., Nov. 21, 1966

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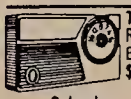

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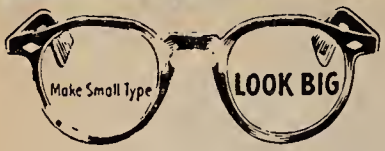

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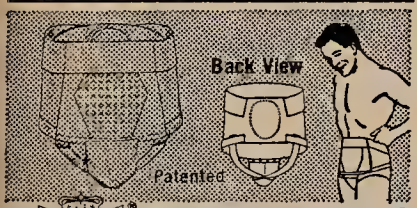

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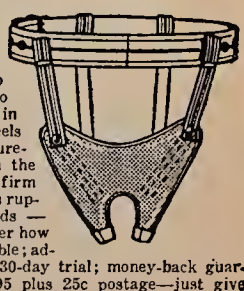

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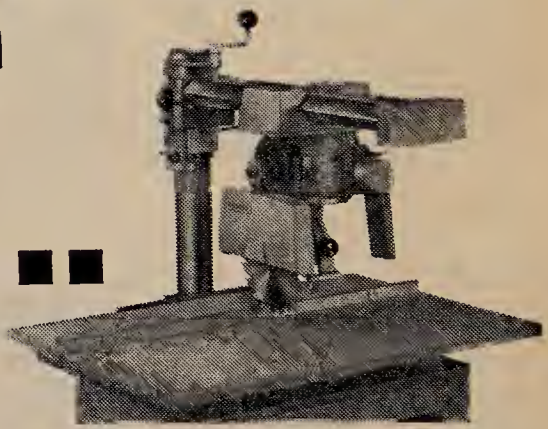

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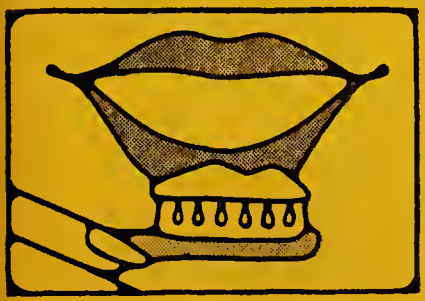

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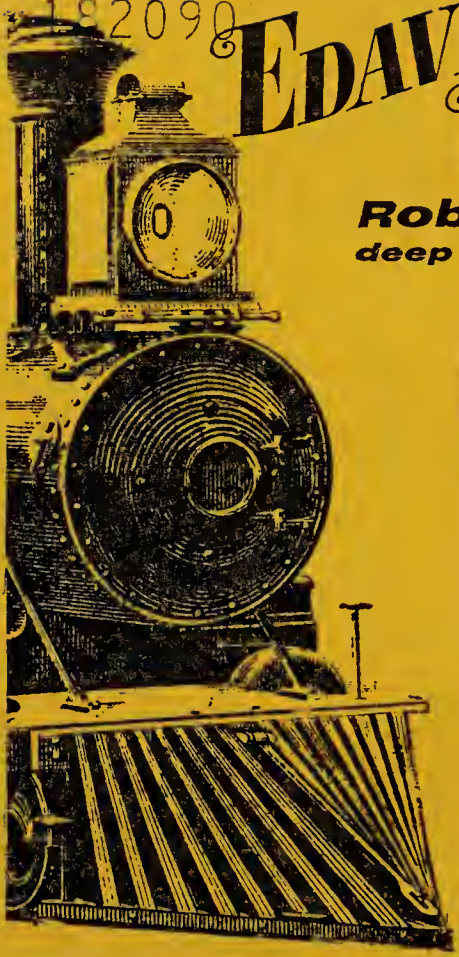

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